

NORTHWESTERN

STEEL-
STRENGTHENED
PLASTERING



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A COMPLETE LINE

KNO-BURN Metal Lath
XX CENTURY : CORRUGATED
 $\frac{3}{8}$ " - and $\frac{3}{4}$ " LONGSPAN Rib Lath
 $\frac{1}{8}$ " Flat Rib PLASTA-SAVER
STEELHART Stucco Base
ECONO Reinforcing
ACCESSORIES

**STEEL-
STRENGTHENED
PLASTERING**

NORTH WESTERN EXPANDED METAL CO.

General Offices: 407 S. Dearborn St., CHICAGO

Factories: Chicago and Jeannette, Pa.

BRANCH OFFICES

ATLANTA, GA., 609 Walton Bldg.
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PITTSBURGH, PA., 33 Pride St.

INDIANAPOLIS, IND., 5255 Park Ave.

Cable Address: "KNOBURN"

STEEL-STRENGTHENED PLASTERING

PLASTERING ACCESSORIES

NEMCO Corner Bead

CORNA-LATH



NEMCO Corner Bead

"Straight as a Die"

A STRAIGHT, strong, wide flanged, well galvanized, wing type bead in great demand for ordinary work. Takes care of all ordinary thickness of plaster, but can be used with a special clip when the unevenness of the walls requires an extra thick plaster coat.

The Nemco not only affords maximum corner protection, but is justly a favorite with builders, since it is an absolutely reliable guide for the plasterer to work to. Large perforations assure a splendid clinch for the plaster, the small perforations facilitating nailing or wiring to underlying structure.

Crated with especial care to assure its reaching its destination in first class condition.

Stock Lengths and Shipping Weight

Gauge	Finish	Stock Lengths	Shipping Weight Crated Per 1000 Lin. Ft.
26	Galv. Before Mfg.	6, 7, 8, 8½, 9, 10, 12 ft.	200 lbs. (Approx.)

Packed in full crates of 100 pieces or half crates of 50 pieces of the same length. Always shipped crated in less than carload lots; shipped uncrated in straight or mixed carloads unless ordered crated.

CORNA-LATH

A "Cornerite"—Not a Corner Bead

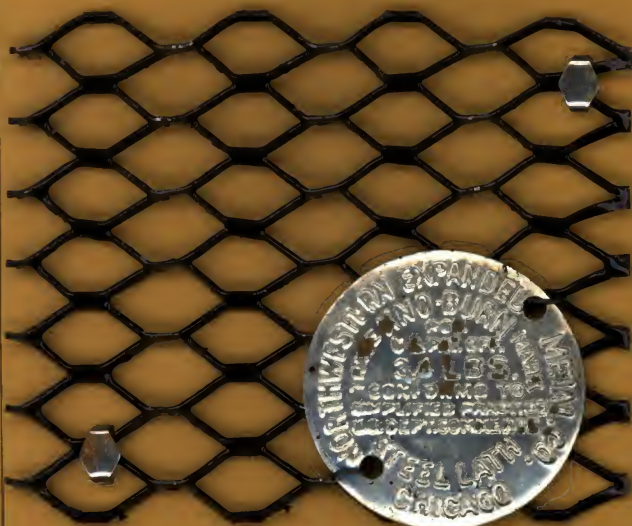
USED to prevent the ugly corner cracks found in so many wood lathed buildings and which not only spoil the appearance of the room, but constitute a real fire hazard.

CORNA-LATH is a 3"x3" "L" or sharp, true angle, formed of Expanded Metal Lath, cut in 8 ft. lengths. Applied at all intersections of wall and ceiling (particularly where masonry and stud walls join) and vertical corners, it reinforces the plaster where the strain is greatest, tending to produce permanently firm, crack-free corners.

CORNA-LATH, accurately shaped by machines, is as superior to the home-made "cornerite" cut and bent on the job, as the modern auto surpasses that of 20 years since. Yet its cost is so moderate that it can be used in low priced work.

CORNA-LATH is carefully crated so as to reach the job in first class condition—straight and free from dents. Packed 125 eight-foot pieces (5 bdl. of 25 pieces) to crate. Wgt. per crate (1000 lin. ft.,) approx. 145 lbs.

NORTH WESTERN EXPANDED METAL PRODUCTS



Kno-Burn METAL LATH

A flat, $\frac{3}{8}$ " diamond meshed steel base and reinforcing for all types of plastering work, fire-proofing, fire-stopping, etc. Economical of plaster. Perfect keying and very rigid. Painted. (Also furnished cut from Copper Bearing Sheet.)

Stock Size and Weights of Kno-Burn Metal Lath

Weight per Sq. Yd.	Size of Sheets	Sheets per Bdl.
#3.4 lbs.	24" x 96"	9 (16 yards)
*3.0 lbs.	24" x 96"	9 (16 yards)
#2.5 lbs.	24" x 96"	9 (16 yards)
2.2 lbs.	24" x 96"	9 (16 yards)

#Also furnished cut from Galvanized Sheet.
*Also furnished cut from Pure Iron Sheet.



Plasta-Saver METAL LATH

A $\frac{1}{8}$ " flat rib which combines the best features of diamond meshed lath with the rigidity found only in the rib types. Owing to the fact that all the mortar is utilized—there is practically no waste from droppings—this lath is so economical that it can be used in competition with ordinary lath or other inferior combustible bases. Very stiff over supports. A very satisfactory, fire-resisting plastering base for the class of work in which wood lath or wall board would ordinarily be used. Painted.

Stock Size and Weight of Plasta-Saver

Weight per Sq. Yd.	Size of Sheets	Sheets per Bdl.
3.4 lbs.	24" x 96"	9 (16 yards)



COPPER BEARING

Plasta-Saver

Same as above but cut from Copper-Bearing (Keystone) sheet instead of Standard Steel sheet, and painted red. The copper content gives maximum resistance to atmospheric effects. Copper-Bearing PLASTA-SAVER is therefore, specially indicated for use in the Southern States, at the sea coast or wherever severe climatic conditions exist.

Note: North Western PLASTA-SAVER (both copper-bearing and standard steel) weighs full 3.4 lbs. per sq. yd. Sheets 24"x96". Packed 9 sheets (16 yds.) to bdl.

STEEL-STRENGTHENED PLASTERING

PLASTERING ACCESSORIES

Bull Nose Bead ~ *Expanded Metal Bead* ~ *Scalloped Flange*



BULL NOSE CORNER BEAD

A BEAD much used in hospitals, etc., and with which large, rounded, reinforced corners can be secured at less cost than solid, all-plaster corners. Its rigidity facilitates application and makes it easier to secure plumb, straight corners. Clips are required with this bead. Well galvanized. 26 gauge. Nose radius $\frac{3}{4}$ ". Stock lengths, 6, 7, 8, 9, 10 and 12 ft. Shipping Wgt. per 1000 lin. ft. approx. 273 lbs. Packed in crates of 100 pieces.

EXPANDED METAL CORNER BEAD

A 26 gauge, perfect keying corner bead well liked by many builders. Made from tight coat galvanized steel. The round nose is reinforced underneath by a groove which holds the plaster flush, providing a perfect bond, while the heavy shoulder assures straightness. Separate clips not required. Stock lengths, 6, 7, 8, 9, 10 and 12 ft. Shipped 10 pcs. to bdl. Shipping Wgt. per 1000 lin. ft. approx. 230 lbs. Packed in crates of approx. 500 or 1000 lin. ft.

SCALLOPED FLANGE CORNER BEAD

A STRONG, straight, scalloped edge bead used by many builders in preference to any other make because of the wider $2\frac{1}{2}$ " flange which facilitates nailing. Very rigid nose. Large and small perforations, thus providing an excellent bond. Well galvanized. Manufactured from 26 ga. steel. Does not require clips. Stock lengths, 6, 7, 8, 9, 10 and 12 ft. Shipping Wgt. per 1000 lin. ft. approx. 208 lbs. Packed in crates of 100 pieces.

NORTH WESTERN EXPANDED METAL PRODUCTS

XX Century

Copper Bearing Metal Lath

A copper bearing, flat lath especially designed for use in warm, damp climates, salt-laden air, manufacturing sections, and which, by test, has proven superior to Pure Iron or lath cut from other so-called special analysis steel. Note that it is also **LOWER IN COST**. This lath is satisfactorily used for rat-proofing.

Stock Size and Weights of XX Century

Weight per Sq. Yd.	Size of Sheets	Sheets per Bdl.
3.4 lbs.	24" x 96"	9 (16 yards)
3.0 lbs.	24" x 96"	9 (16 yards)
2.5 lbs.	24" x 96"	9 (16 yards)
2.2 lbs.	24" x 96"	9 (16 yards)

Corrugated

METAL LATH

A stiff, self-furring lath for stucco, overcoating, etc. Open meshed corrugations $\frac{1}{4}$ " deep, staggered $1\frac{1}{2}$ " apart throughout the sheet. Furnished in same weights and finishes as KNO-BURN (see table).

Galvanized

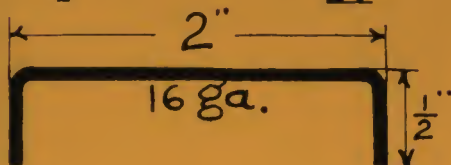
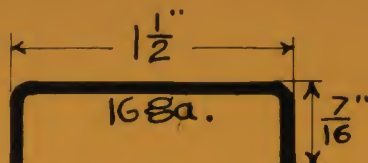
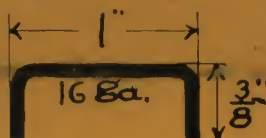
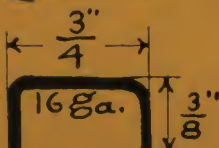
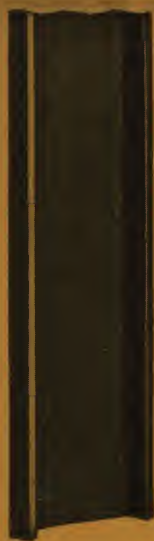
METAL LATH

See KNO-BURN table for the stock size and weights in which this lath can be furnished. Note that all sheets of KNO-BURN are uniform and square with straight, parallel edges on the long sides so that the lath laps easily with minimum waste.

STEEL-STRENGTHENED PLASTERING

PLASTERING ACCESSORIES

NEMCO Cold Rolled Channels



A LIGHT-WEIGHT channel, cold rolled from best quality 16-gauge steel. The legs are exactly perpendicular to the back. Accuracy in manufacture accentuates the desirable features of the channel shape itself.

The NEMCO Channel stands high in favor with builders because of its strength, light weight (saving freight and trucking charges) and the facility with which it can be cut or bent to any special shape required. These are but two items contributing to the general ease of erection.

It is square and straight, free from curl or twist and readily spliced by merely interlocking the flanges. (The thinner flanges of this channel make it easier to obtain a neat, workmanlike splice.)

Used for studding in solid or hollow partitions, for furring on flat or suspended ceilings, false beams, columns, cornice work, etc. A noteworthy use is for the elaborate ornamental work and arched ceilings of theatres and auditoriums.

Furnished in the Following Stock Sizes and Lengths:

Size	Lengths,	Weight per 1 M Lin. Ft.
3/4"	12, 14, 16, 18, 20 ft.	276 lbs.
1"	12, 14, 16, 18, 20 ft.	332 lbs.
1 1/2"	12, 14, 16, 18, 20 ft.	456 lbs.
2"	16, 18, 20 ft.	580 lbs.

Other Lengths on Special Order

1 1/2' and 2' Channels are packed 10 pieces to bundle. The 3/4' and 1' sizes are packed 20 pieces to bundle.



NEMCO Wide Flange Channels

A STIFF, true, yet light-weight, cold-rolled wide flange channel cut from 18-gauge steel. True, flanges, square corners, right-angle sides. Furnished in 16', 18' and 20' lengths. Packed 20 pieces to bundle. Weight per 1,000 ft., 276 lbs.

Steelhart

STUCCO BASE



A scientifically correct stucco base and reinforcement which provides a continuous straight line reinforcing or strengthening steel framework or "skeleton" for the stucco covering and which is equally well adapted for stucco applied by hand or with "gunite" machine. Size of mesh $1\frac{1}{2}$ " x 3".

Furnished painted black.

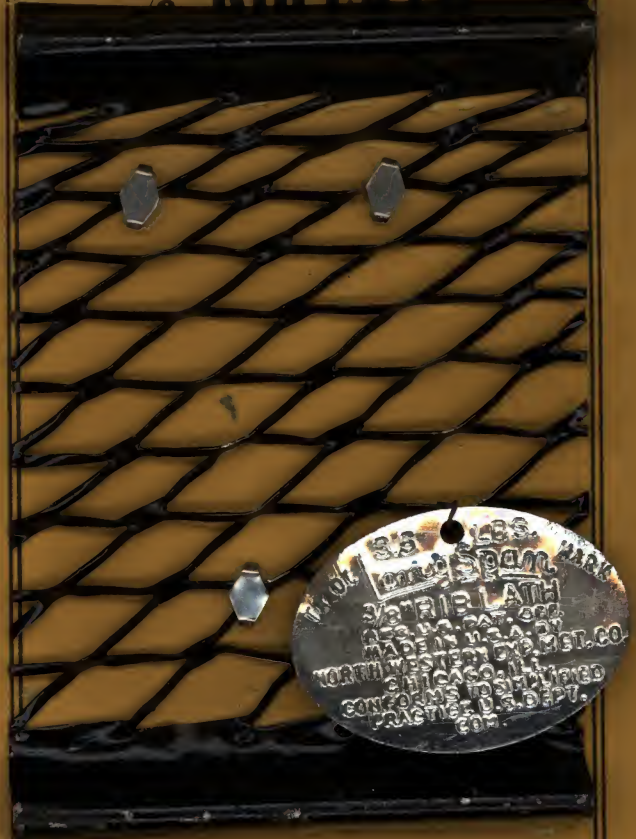
Packed 9 sheets to bundle.

Sizes and Weights of Steelhart

Wgt. per Sq. Yd.	Square Yards per Bundle	Size of Sheets
1.8 lbs.	32	48" x 96"
3.6 lbs.	34	51" x 96"

Longspan

$\frac{3}{8}$ " RIB LATH



An economical, $\frac{3}{8}$ " U-Rib lath for ceilings, walls, partitions, etc., or where supports are more than 16" o.c. Very satisfactory for suspended ceilings and partition work. Also used for contact lath in steel floor pan construction. Painted. Shipped nested and uncrated. Spacing of ribs, 4" c. to c. Packed 9 sheets (16 yards) to bundle. Can also be furnished cut from copper bearing sheet.

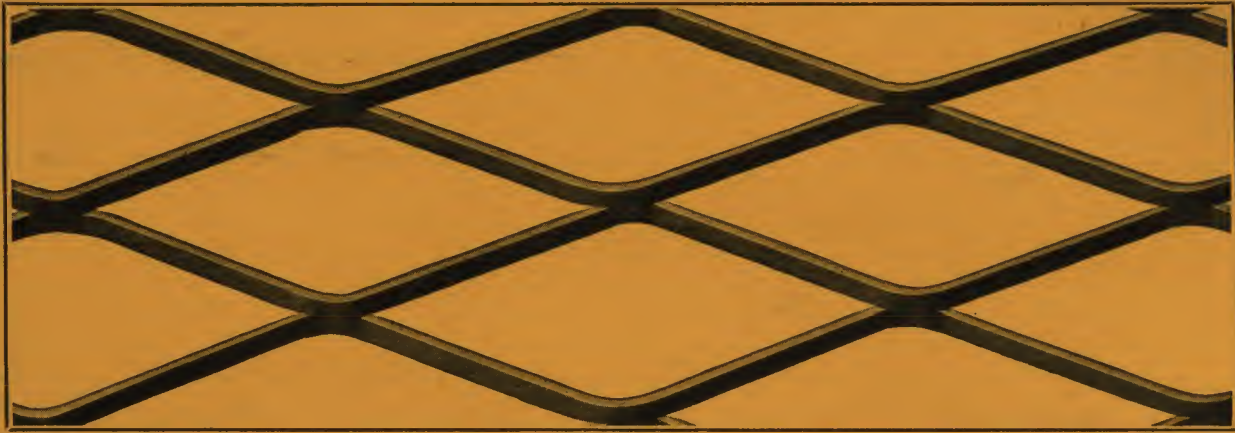
Stock Sizes and Weights of Longspan

Weight per Sq. Yd.	Size of Sheets	Cross-Sectional Area per Foot of Width
*4.0 lbs.	24" x 96"	0.130 square inches
3.5 lbs.	24" x 96"	0.114 square inches
3.0 lbs.	24" x 96"	0.098 square inches

*Can be had cut from Pure Iron Sheet.

STEEL-STRENGTHENED PLASTERING

Econo EXPANDED METAL Reinforcing



A COLD drawn, fabricated or meshed reinforcing for any type of concrete slab construction of moderate span and load. A labor and time saving material.

Permits large areas of reinforcing to be quickly placed by unskilled workmen without possibility of error, since the correct amount of steel to be used is determined at the time the fabric is manufactured, and can not be altered by careless or inexperienced workmen on the job.

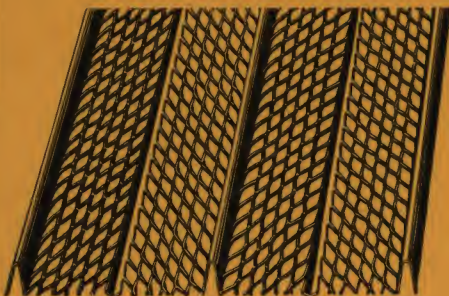
The large, stiff sheets lie flat without stretching, flattening, or other work preliminary to placing in forms; the solid network distributing stress over a wide area. Meshes, $\frac{1}{2} \times 1\frac{1}{2}$ in. to 3x8 in., and for special uses up to $5\frac{1}{4} \times 12$ in. The $2\frac{1}{4}$ and 3-in. meshes are generally used as reinforcing; smaller meshes ($\frac{1}{2}$, $\frac{3}{4}$ and $1\frac{1}{2}$ in.) for machine guards, open partitions, lockers and various manufacturing uses.

Each style has a definite steel cross-sectional area which is used as part of the number designating the style, thus 15-3 Econo has 0.15 sq. in. of cross-sectional area of steel for every 12 in. in the width of the sheet measured across the short diagonal of the diamond.

Sizes and Weights of Econo Expanded Metal

Style	Size of mesh, in.	U. S. Std. Gauge, No.	Approx. size of strands, in.	Sect. area per ft. of width, sq. in.	Weight per sq. ft., lb.	Width, short way of mesh, ft.-in.	Length, long way of mesh, ft.
Reinforcing Meshes							
06-3	3	16	$\frac{1}{16} \times \frac{3}{16}$	.06	0.20	6-0	8 and 12
08-3	3	16	$\frac{1}{16} \times \frac{3}{16}$	.08	0.27	6-0	8 and 12
10-3	3	13	$\frac{1}{16} \times \frac{3}{8}$	.10	0.34	4-0	8, 10, and 12
125-3	3	13	$\frac{1}{16} \times \frac{3}{8}$	.125	0.42	5-6	8, 10, and 12
15-3	3	10	$\frac{1}{16} \times \frac{3}{8}$	.15	0.51	7-0	8, 10, and 12
176-3	3	10	$\frac{1}{16} \times \frac{3}{8}$	.176	0.60	6-0	8, 10, and 12
20-3	3	10	$\frac{1}{16} \times \frac{3}{8}$	.20	0.68	5-6	8, 10, and 12
25-3	3	10	$\frac{1}{16} \times \frac{3}{8}$	.25	0.85	4-3	8, 10, and 12
30-3	3	10	$\frac{1}{16} \times \frac{3}{8}$	.30	1.02	7-0	8, 10, and 12
35-3	3	10	$\frac{1}{16} \times \frac{3}{8}$	.35	1.19	6-0	8, 10, and 12
40-3	3	7	$\frac{1}{16} \times \frac{3}{4}$	.40	1.36	7-0	8, 10, and 12
45-3	3	7	$\frac{1}{16} \times \frac{3}{4}$	.45	1.53	6-3	8, 10, and 12
50-3	3	7	$\frac{1}{16} \times \frac{3}{4}$	.50	1.70	5-9	8, 10, and 12
54-3	3	7	$\frac{1}{16} \times \frac{3}{4}$	.54	1.83	5-6	8, 10, and 12
60-3	3	7	$\frac{1}{16} \times \frac{3}{4}$	.60	2.04	4-9	8, 10, and 12
65-3	3	7	$\frac{1}{16} \times \frac{3}{4}$	.65	2.19	4-3	8, 10, and 12
10-2 $\frac{1}{4}$	2 $\frac{1}{4}$	16	$\frac{1}{16} \times \frac{1}{4}$	.10	0.34	5-0	8 and 12
15-2 $\frac{1}{4}$	2 $\frac{1}{4}$	13	$\frac{1}{16} \times \frac{1}{4}$	.15	0.51	4-9	8, 10, and 12
Special Meshes							
18-1 $\frac{1}{2}$	1 $\frac{1}{2}$	13	$\frac{1}{16} \times \frac{1}{4}$	.18	.60	4-0	8, 10, and 12
375-1 $\frac{1}{2}$	1 $\frac{1}{2}$	9	$\frac{1}{16} \times \frac{1}{4}$	.375	1.28	6-0	8 only
15-3 $\frac{1}{2}$	3 $\frac{1}{2}$	16	$\frac{1}{16} \times \frac{1}{2}$	.15	.51	7-0	8 and 12
24-3 $\frac{1}{2}$	3 $\frac{1}{2}$	13	$\frac{1}{16} \times \frac{1}{2}$	.24	.80	4 and 6	8, 10, and 12
53-3 $\frac{1}{2}$	3 $\frac{1}{2}$	9	$\frac{1}{16} \times \frac{1}{2}$	.53	1.80	4-6	8 only
20-2 $\frac{1}{2}$	2 $\frac{1}{2}$	18	$\frac{1}{16} \times \frac{1}{4}$	.20	.68	4-0	8 only

$\frac{3}{4}$ " LONGSPAN RIB LATH



$\frac{3}{4}$ " LONGSPAN is an expanded metal reinforcement for concrete floors, roofs, walls, etc. Parallel cold formed U-shaped ribs are spaced 48" center to center and connected by a steel mesh of the well known diamond shaped Kno-Burn type, all formed from a single sheet of steel.

The mesh sections consist of two expanded panels of six rows of diamonds each, connected by a shallow V shaped rib which adds materially to the rigidity of the mesh. The deep U-shaped ribs nest together forming a compact bundle for shipment and the outer ribs fit together snugly in erection, producing a joint or lap whose strength is equal to that of a sheet.

This combination of ribs $\frac{3}{4}$ " deep with this most efficient form of mesh affords an effective reinforcement for concrete slabs and at the same time eliminates the need of wood forms. The small mesh openings prevent seepage of the concrete and the deep ribs so stiffen the sheets that a minimum of temporary supports is required.

$\frac{3}{4}$ " Longspan is furnished in sheets 28.8" wide, in lengths of 4, 5, 6, 7, 8, 9, 10, 11 and 12 feet and weighing 0.50, 0.60 and 0.75 lbs. per sq. ft. painted.

RECOMMENDED SPECIFICATIONS

for

METAL LATH CONSTRUCTION

THE Specifications hereinafter submitted have been approved by the American Specification Institute and the Associated Metal Lath Manufacturers. They are the combined results of many months of investigation into the specifications of leading architects; inspection of actual construction in all parts of the country; research into scores of building codes; data compiled from questionnaires circulated amongst representative contractors; as well as the manufacturers' own recommendations. Any specification taken from these pages will therefore assure a safe and permanent construction at economical cost.

It will be noticed that they are compiled upon the basis of **weight** only,—the method advocated at the conference held by the United States Department of Commerce through its Bureau of Standards, and used in the American Concrete Institute.

The specifications cover the quality of materials and method of application on all types of metal lath expanded from sheets used for the following constructions:

Specifications No.	Page	Specifications No.	Page
1 Wood Stud and Joist Construction..	2	10. Attached Ceilings Under Concrete, (Removable Forms)	9
2 Back Plastered Metal Lath Stucco Construction	2	11 Attached to Concrete Ceilings (Per- manent Forms)	11
3 Stucco on Metal Lath Over Sheathing	3	12 Suspended Ceilings	11
4 Overcoating Stucco on Metal Lath...	4	13 Beams and Cornices	13
5 Metal Stud Partitions, Solid or Hol- low (Fireproof Buildings)	5	14 Columns and Pilasters	13
6 Metal Stud Partitions, Solid or Hol- low (Non-Fireproof Buildings)	7	15 Corner and Jamb Reinforcement in Block Partition Construction	14
7 Wall Furring	7	16 Metal Lath in Steel Joist Construction	14
8 Standing Furring	9	17 Alternate Specifications for Maximum Economy	14
9 Attached Ceilings, Steel Floor Beams	9	18 Metal Lath under Tile Work	16

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NORTH WESTERN EXPANDED METAL CO.

"The First
to
Make Small
Mesh Lath"

GENERAL OFFICES
407 South Dearborn Street
CHICAGO, U. S. A.

Representatives in all Principal Cities

STEEL-
STRENGTHENED
PLASTERING

A-130-87-5½M

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NOMENCLATURE

The following nomenclature for Metal Lath Construction has been established:

EXPANDED METAL LATH

This term is used to indicate a metal lath, slit and expanded from sheet metal into such a form that there will be no rib in the lath.

RIB

An unexpanded portion of metal lath which leaves the plane of the lath at a certain angle and returns at the same angle.

THREE-EIGHTHS INCH RIB LATH

Is a combination of expanded metal lath and ribs of a total depth of approximately three-eighths of an inch measured from the top side of the lath to the top side of the rib.

FLAT RIB LATH

An expanded metal lath in which the rib has a total depth of less than three-sixteenths of an inch measured as above.

SELF-FURRING LATH

A lath so formed that portions of it extend from the face of the lath so that it is separated at least one-quarter of an inch from the background to which it is attached.

EXPANDED METAL REINFORCING

This term is used to indicate a reinforcement sim-

ilar to metal lath but cut and expanded from heavier sheet metal and especially suitable for exterior stucco.

ATTACHED CEILING

A ceiling which is clipped or wired in direct contact with the construction above, without the use of runner channels.

SUSPENDED CEILING

A ceiling which is suspended below floor or roof construction using runner channels as intermediate supports.

HANGER

The vertical member of a suspended or attached ceiling which carries the steel framework.

RUNNER CHANNEL

The heaviest horizontal member of a suspended ceiling.

FURRING CHANNEL

The smallest horizontal member of a suspended ceiling; the largest horizontal member in an attached ceiling; also the member used to separate metal lath from any surface over which it is applied.

CORNERITE

An 8-inch strip of metal lath bent into the shape of an "L" and applied as corner reinforcement over wood lath or plasterboard.

No. 1—WOOD STUD AND JOIST CONSTRUCTION

(See Illustrations Page 14)

(1) WEIGHTS OF METAL LATH.

(a) For Partitions.

Expanded Metal Lath, for studs with a maximum spacing of 16 inches on centers, shall weigh not less than 2.5 pounds per square yard.

Note: Expanded Metal Lath weighing 2.2 pounds per square yard is regularly manufactured and available for use in partitions where Underwriter's Standards are not exacted; it is also suitable for corner reinforcements (Cornerite).

Three-eighths inch Rib Lath, for studs with a maximum spacing of 19½ inches and 24 inches on centers, shall weigh not less than 2.5 pounds and 3 pounds per square yard, respectively.

Flat Rib Lath, for studs with a maximum spacing of 19½ inches on centers, shall weigh not less than 3 pounds per square yard.

(b) For Ceilings.

Expanded Metal Lath, for joists with a maximum spacing of 16 inches on centers, shall weigh not less than 3 pounds per square yard.

Three-eighths inch Rib Lath, for joists with a maximum spacing of 19½ inches and 24 inches on centers shall weigh not less than 3 and 3.5 pounds per square yard, respectively.

Flat Rib Lath, for joists with a maximum spacing of 19½ inches on centers shall weigh not less than 3 pounds per square yard.

(2) SIZE, WEIGHTS AND SPACING OF NAILS, STAPLES AND TIE WIRE.

(a) Attachments for Metal Lath.

Metal Lath shall be attached to wood studs and joists by not less than 6d nails or 1¼ inch No. 14 gauge wire staples driven to a penetration of not less than ⅞ inch and spaced not to exceed 6 inches on center; provided, further, that ¾ inch No. 14 gauge wire staples may be used in lieu of 1¼ inch staples when Underwriter's Standards are not exacted.

(b) Tie Wire shall be not less than No. 18 gauge galvanized soft annealed.

NOTE: See also Page 15 for Metal Lath Alternate Specifications for Maximum Economy.

No. 2—BACK-PLASTERED METAL LATH STUCCO CONSTRUCTION

(See Illustrations Pages 4 and 16)

(1) WEIGHTS OF METAL LATH.

Expanded metal, self-furring, or ⅜-inch Rib Lath, for studs spaced not greater than 16 inches on centers, shall weigh not less than 3.4 pounds per square yard.

(2) FURRING STRIPS.

Furring strips, if used, shall be metal pencil rods of a diameter not less than ⅜ inch, or may be crimped metal, not less than ½ inch wide and not less than No. 22

SPECIFICATIONS FOR METAL LATH CONSTRUCTION

gauge. Furring strips are not required if self-furring lath is used, or if lath is applied by self-furring attachments which insure at least $\frac{1}{4}$ -inch stucco behind lath.

(3) SIZES AND WEIGHTS OF NAILS, STAPLES AND TIE WIRE.

(a) Metal Lath shall be attached to supports by not less than 6d nails or $1\frac{1}{4}$ inch No. 14 gauge galvanized wire staples driven to a penetration of not less than $\frac{7}{8}$ inch. Attachments used for Expanded Metal Lath shall be spaced not to exceed 6 inches on center, and when used for $\frac{3}{8}$ -inch Rib Lath shall occur at each rib.

(b) Tie wire shall be not less than No. 18 gauge galvanized soft annealed.

(4) SIZE, SPACING AND FRAMING OF WOOD EXTERIOR.

(a) Studs.

Studs shall be not less than 2 by 4 inch, spaced not to exceed 16 inches on centers, and shall rest on a wood plate bolted to masonry not less than 9 inches above finished grade.

(b) Horizontal Bracing.

Studs shall be braced midway between story heights with horizontal bridging not less than 2 inches in thickness, set back or tilted to permit back-plastering.

(c) Diagonal Bracing.

Wood studding shall be braced at each corner of building at each floor and wherever else required for good construction, by not less than 1 by 4 inch braces; the slope or angle of which shall be such that each brace shall tie together not less than the upper or lower half of the three studs adjacent to the corners or other places requiring bracing, at floor or ceiling levels. Such braces shall be cut into and nailed to each stud with not less than two 10d nails, or an alternate form of diagonal bracing consisting of 2-inch material cut between and nailed to the studs in the positions described shall be used.

(d) Other Bracing, etc.

Wall studs shall be tied together at floors and ceilings by girts or plates cut into or otherwise secured to each stud at such points. Studs shall be doubled around openings, and openings 4 feet wide or more shall be trussed over.

(5) INSULATION.

Not less than one layer of building paper, quilting, felt, or other form of insulation shall be imposed as insulation between the interior and exterior face of studs.

(6) FIRESTOPPING.

The space between the studs at their juncture with the floor and ceiling joists shall be properly firestopped. Fire stops shall consist of metal lath basket-shaped to fit between studs coated with plaster or cement and filled with incombustible materials to 3 inches above floor level.

(7) FLASHING.

Metal flashing shall be used at water tables, over all door and window openings, wherever projecting wood trim occurs, and at all horizontal courses and elsewhere wherever water might remain on or get behind stucco.

(8) STUCCO MATERIALS.

Stucco shall be of approved materials and shall be at least two coats (not including back-plastering) and have a thickness not less than $\frac{7}{8}$ inch over outside face of

lath, and a total thickness, including back-plastering, of not less than $1\frac{1}{2}$ inches.

(9) ERECTION OF METAL LATH.

(a) Metal Lath shall not be applied until all exterior framing is completed and flashing nailed in place.

(b) All lath shall be erected with the long dimension of sheet across supports, rib or self-furring lath with the ribs against supports.

(c) Application of sheets of lath shall commence at the top right corner of building, one stud away from corner, bending sheets around the angle and carrying them on to the abutting wall, so that no joints shall occur at corners; provided, however, that where Self-Furring or $\frac{3}{8}$ inch Rib Lath is used, it shall be started at the corner, and strips of flat lath (Cornerite) not less than 12 inches wide shall be bent around the angle, not less than 6 inches on each wall, and be securely wired along each edge to the Ribbed or Self-Furring Lath. Cornerite shall not be fastened at the corner, but only along each edge of the sheet.

(d) Lath shall be placed so that the lower sheet laps over the upper (not vice versa) and shall be securely attached to the supports. Nails or staples shall be so placed that a nail or staple occurs where sides of sheets lap at supports. On walls, clinch of nails shall be upward, not downward.

(e) If Expanded Metal Lath is used, furring strips are nailed at the same time as lath; the nails or staples shall be bent over or straddle the furring strips. Furring strips are not required for self-furring or rib laths which are nailed direct to studding with ribs against studs.

(f) Expanded Metal Lath shall be lapped at sides not less than $\frac{1}{2}$ inch, and at ends not less than 1 inch. Rib Lath shall be lapped at sides by nesting outside ribs, and at ends 1 inch. End laps shall occur only over supports.

(g) Side laps shall be tied at least once between supports with No. 18 gauge galvanized annealed wire.

(h) Where required, Metal Lath baskets for firestops shall be constructed before applying stucco.

(10) APPLICATION OF STUCCO.

(a) Scratch coat shall first be applied to exterior face of lath, and shall average at least $\frac{1}{4}$ inch in thickness over face of lath to provide proper support for succeeding coats. After it has set, the back-plastered coat shall be applied, working the mortar well between the lath and face of stud, and thoroughly embedding back face of lath by not less than $\frac{5}{8}$ inch of stucco plaster.

(b) Where two-coat stucco is used, second or finish coat shall be applied on exterior face of wall directly on scratch coat. Where three-coat stucco is used, a brown or straightening coat shall first be applied over scratch coat and be well scratched to receive finishing coat. Total thickness of stucco shall not be less than specified in Paragraph 8 preceding.

(c) Portland cement stucco shall not be applied in freezing weather except when suitably protected from freezing. Other stuccoes shall be applied only in accordance with recommendations of manufacturers thereof.

(11) APPLICATION OF INSULATION.

Before lathing interior face of studs, insulation as specified in Paragraph 5 preceding shall be applied between or over interior face of studs, so as to provide an air space between it and the back side of interior plaster.

No. 3—STUCCO ON METAL LATH OR EXPANDED METAL REINFORCING OVER SHEATHING

(See Page 16)

Use Specifications No. 2, Back-Plastered Metal Lath Stucco Construction, excepting where modified hereunder:

(1) WEIGHTS OF METAL LATH. (Same as Spec. 2, or use Expanded metal reinforcing weighing not less than 0.2 pounds per square foot, with a minimum opening of $1\frac{1}{2}$ inches.)

(2) FURRING STRIPS. (Same as Spec. 2, except that furring strips are not required if self-furring attachments are used for lath or reinforcing.)

(3) SIZE AND WEIGHTS OF NAILS, STAPLES AND TIE WIRE. (Same as Spec. 2.)

BACK-PLASTERED METAL LATH STUCCO CONSTRUCTION

© Associated Metal Lath Mfrs.
Chicago

Metal Lath for exterior to weigh not less than 3.4 lb per sq. yd.

Back side of scratch coat exterior Stucco
Backplaster Coat
Horizontal bridging
Air space insulation behind stucco
Bulge in paper between studs for air space insulation behind interior plaster
Metal Lath on inner face studs

Note Horizontal bridging also acts as firestop

building paper

Set back to facilitate backplastering

Interior Plaster to be 3-Coat work

SPECIFICATIONS

In order of construction

- ① Foundation Walls To extend at least 12 inches above grade
- ② Framing Studs not less than 2" by 4", not more than 16" O.C.
- ③ Diagonal Bracing: 1 by 4 cut into and spiked to inside face of studs adjacent to each corner at each floor level or 2 by 5 cut between studs.
- ④ Horizontal Bridging: Same size as studs, fitted, set midway between floors.
- ⑤ Other Bracing Etc: End joists spiked to all end wall studs; double studs around openings; truss over opening 4 ft wide or more
- ⑥ Sheathing: None
- ⑦ Furring: Where flat lath is used apply furring strips (metal preferred) direct to studs. Nail or staple every 12"
- ⑧ Flashing: Use metal flashings liberally wherever water might get behind stucco.
- ⑨ Metal Lath: Apply sheets horizontally. Use painted lath, flat, ribbed or self-furring, weight not less than 3.4 lb per sq. yd. Lap 1/2" at sides; 1" at ends over supports (A) and (B). Tie once with 18 gage annealed wire between supports or felt between inner and outer face of studs
- ⑩ Nails: Every 6"; use 6d. common driven in 7/8" band bent up, or 1 1/4" by 14 gage wire staples
- ⑪ Stucco: At least 2 coats not less than 7/8" on outside, and 1 backplaster coat on inside (A) - 7/8" thick
- ⑫ Insulation: Provide not less than 1 layer of building paper or felt between inner and outer face of studs
- ⑬ Firestopping: Metal Lath baskets plastered and filled with incombustible materials, fitted between studs at juncture with joists.

See also Page 16 for Details of Windows in Backplastered and in Stucco on Metal Lath over Sheathed Construction.

SPECIFICATIONS FOR METAL LATH CONSTRUCTION

(4) SIZE, SPACING AND FRAMING OF WOOD EXTERIOR.

(a) Studs. (Same as Spec. 2—Backplastered Construction.)

(b) Horizontal Bracing.

Studs shall be braced midway between story heights with horizontal bridging of the same size as the studs.

(c) Diagonal Bracing. (Same as Spec. 2.)

(d) Other Bracing. (Same as Spec. 2.)

(e) Sheathing.

Sheathing shall be not less than $\frac{7}{8}$ inch nominal thickness, not less than 6 inches nor more than 8 inches wide, and shall be laid horizontally with two 10d nails driven into each stud. (Diagonal sheathing is not recommended.)

(5) INSULATION.

A substantial waterproofed building paper, quilting, felt or other waterproof form of insulation shall be laid horizontally over the sheathing, commencing at the bottom. The bottom strip shall lap over the baseboard at the bottom of the wall, and upper strips shall lap over lower strips (not vice versa), and lap shall be not less than 2 inches. Insulations shall lap flashings at all openings.

(6) FIRESTOPPING. (Same as Spec. 2.)

(7) FLASHING. (Same as Spec. 2.)

(8) STUCCO MATERIALS.

Stucco shall be of approved materials, and shall be at least two-coat work and have a thickness of not less than $\frac{7}{8}$ inch over outside face of lath.

(9) ERECTION OF METAL LATH.

(a) Metal Lath shall not be applied until all exterior framing is completed and flashing and insulation nailed in place.

(b), (c), (d) (Same as Spec. 2.)

(e) If Expanded Metal Lath is used, furring strips are nailed at the same time as lath, the strips being applied vertically on about 12-inch centers directly over insulation and nailed or stapled every 12 inches; the nails or staples shall be bent over or straddled the furring strips. Furring strips are not required for self-furring or rib lath which are applied with ribs against insulation and nailed directly to sheathing, or for flat Expanded Metal Reinforcing which is applied with self-furring nails or attachments.

(f), (g) (Same as Spec. 2.)

(h) (Omit).

(10) APPLICATION OF STUCCO.

(a) Scratch coat shall be of such consistency and so manipulated as to thoroughly imbed back side of metal lath, shall average at least $\frac{1}{4}$ inch in thickness over face of lath, and be well scratched to provide a bond for the succeeding coat.

(b) (Same as Spec. 2.)

(c) (Same as Spec. 2.)

(11) CONSTRUCTION OF FIRESTOPPING.

Before lathing interior face of studs, construct metal lath baskets for firestops to completely fill openings at positions specified in Paragraph 6 preceding, and coat with plaster or cement and fill with incombustible materials to 3 inches above floor level.

No. 4—OVERCOATING STUCCO ON METAL LATH

Use specifications No. 3, Stucco on Metal Lath Over Sheathing, excepting where modified hereunder:

(1) (Same as Spec. 3, Stucco over Sheathing.)

(2) (Same as Spec. 3, Stucco over Sheathing.)

(3) (Same as Spec. 3, Stucco over Sheathing.)

(4) RECONSTRUCTION OF OLD SIDING, ETC.

(a) Renailing of Loose Siding, Shingles, etc.

Where lap or bevel siding or shingles have been used for the wall covering, they shall be examined as to their present condition. If in good condition they may be left in place, but any loose siding or shingles shall be renailed and, if defective, shall be replaced, after which the procedure shall be as specified in article (b) below.

Removal of Siding, Shingles, if in Generally Poor Condition.

If siding or shingles are in generally poor condition, they shall be removed entirely and a substantial water-

proofed building paper or membrane applied over the sheathing, after which the "Specifications for Stucco on Metal Lath Over Sheathing" shall be followed.

(b) Extension of Door and Window Trim and Placing of Flashing.

After the old lap or bevel siding, or shingles, have been securely nailed to the sheathing, all door and window trim shall be extended so that it will have the proper projection beyond the finish face of the overcoating.

(5) (Same as Spec. 3, except add "old siding or shingles" in front of word "sheathing").

(6) (Omit).

(7) (Same as stucco over sheathing).

(8) (Same as stucco over sheathing).

(10) (Same).

(11) (Omit).

No. 5—METAL STUD PARTITIONS (SOLID OR HOLLOW)

(For Details See Pages 6 and 8)

(1) WEIGHTS OF METAL LATH.

(a) Expanded Metal Lath, for studs with a maximum spacing of 12 inches on center, shall weigh not less than 2.2 pounds per square yard, and for studs with a maximum spacing of 16 inches on center shall weigh not less than 2.5 pounds per square yard.

(b) Three-eighths inch Rib Lath, for studs with a maximum spacing of 19½, 24, 30 and 36 inches on centers, shall weigh not less than 2.5, 3, 3.5 and 4 pounds per square yard.

(c) Flat Rib Lath, for studs with a maximum spacing of 19½ inches on center, shall weigh not less than 3 pounds per square yard.

(2) SIZE AND WEIGHT OF STUDS.

(a) Studs for Solid Partitions shall be $\frac{3}{4}$ inch Cold or Hot Rolled Channels weighing not less than 276 pounds per thousand lineal feet.

(b) Studs for Hollow Partitions shall be either a single row of Cold or Hot Rolled Channels of the width desired

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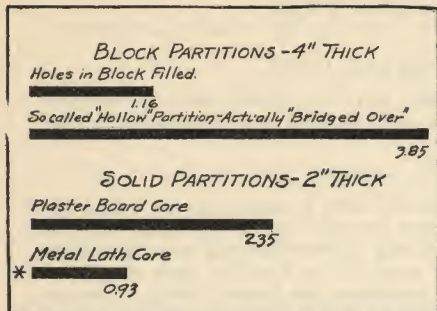
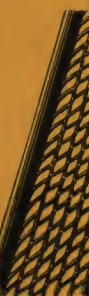
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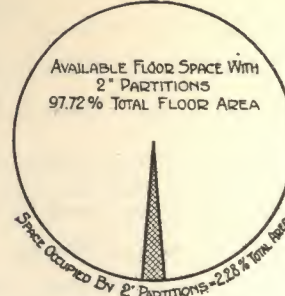
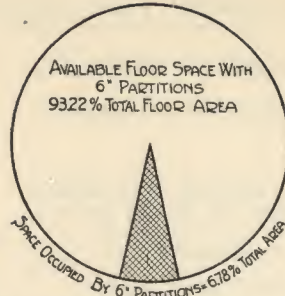
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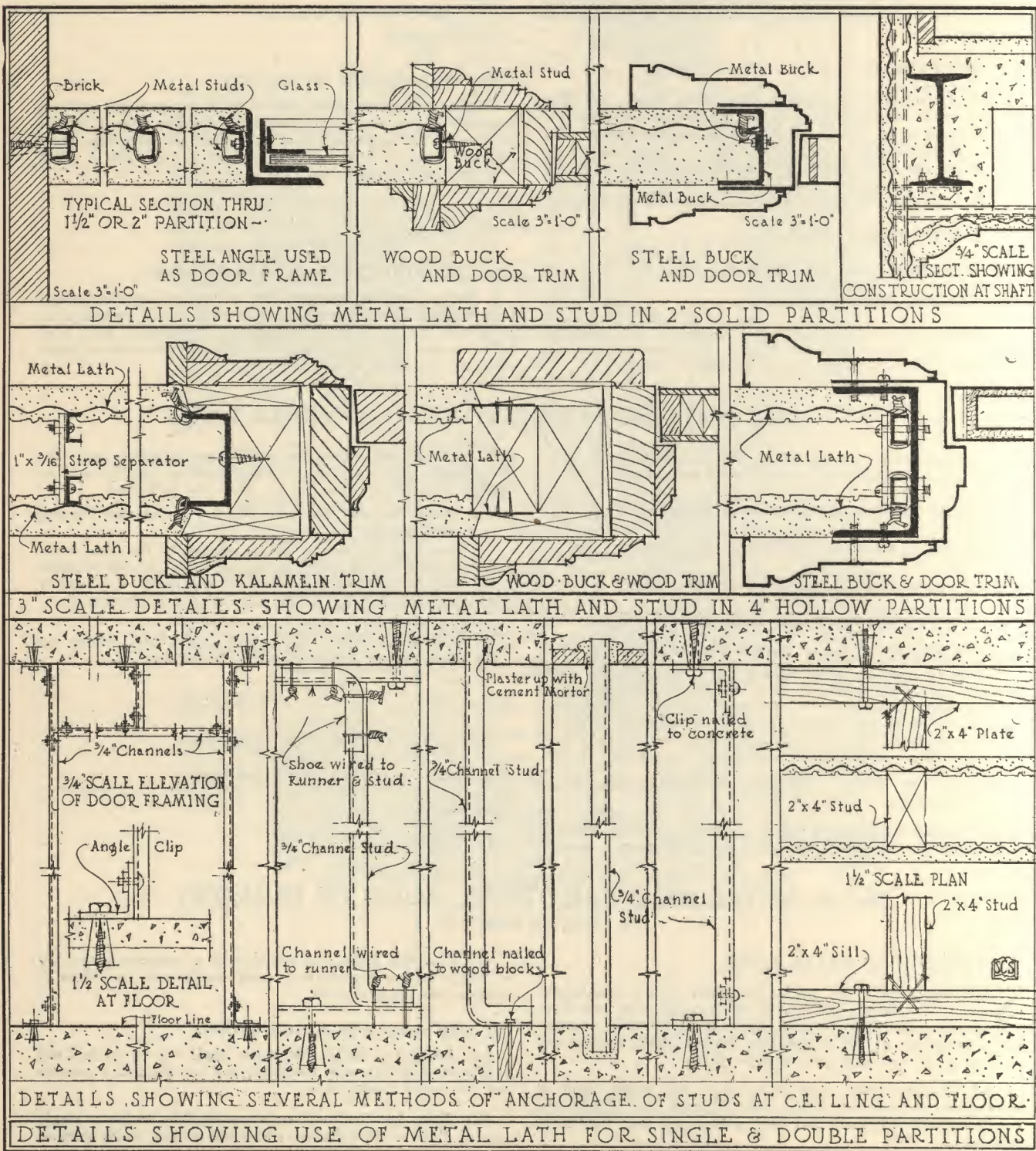
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Relative Intensity of Sound Transmitted Through Solid Metal Lath Partitions as Compared with Hollow Block Partitions.



Diagrams Showing Comparison of Available Floor Space in Two Buildings, One with 6-Inch Partitions, the Other 2-Inch Partitions; Total Floor Area, 33,000 Square Feet.



SPECIFICATIONS FOR METAL LATH CONSTRUCTION

for the finished partition, or a double row of not less than $\frac{3}{4}$ -inch Channels weighing not less than 276 pounds per thousand lineal feet.

(3) SIZE AND WEIGHT OF RUNNER CHANNELS.

Floor and Ceiling Runner Channels for both solid and hollow partitions, if used, shall be not less than 1 inch Cold or Hot Rolled Channels weighing not less than 330 pounds per thousand lineal feet.

(4) SPACERS, BRACES, TIE WIRE.

(a) Spacers or Braces for hollow partitions shall be of substantial design and shall be spaced approximately 3 feet on centers.

(b) Tie Wire shall be not less than No. 18 gauge galvanized soft annealed.

(5) ERECTION OF STUDDING.

(a) When floor and ceiling runners are used, they shall be securely bolted or clamped to the floor beams, soffits of concrete or terra cotta arches and substantially secured to top of concrete or tile floors. Hollow partitions shall have parallel lines of such floor and ceiling runners.

(b) Studs shall be secured in position by bolting to floor and ceiling runners or by bending a shoe at the end of studs and wiring, nailing, or bolting to plates, or by inserting ends of studs in holes drilled in top of concrete or other masonry floors or punched in soffits of masonry ceilings, or by bending a shoe at ends of studs and anchoring to holes drilled in floors and ceilings, or, where metal lath ceilings are used, a small hole shall be made in the ceiling lath and the end of the channel allowed to project through it and be wired to a runner channel attached to the ceiling lath.

(c) Channels of a length shorter than the total height of the partition are permissible, but when pieced out with short lengths the splicing shall be made by lapping not less than 8 inches, with the flanges interlocked and securely wired together.

(d) For hollow partitions the double studding shall be spaced the proper distance with spacers not over 3 feet centers.

(6) ERECTION OF METAL LATH.

(a) Metal Lath shall be applied to one side only of the channels, with the long dimension of sheet across the studs; ends of sheets shall be staggered one above another. Lathing shall commence at the top of the partitions and be carried down with the edge of the lower sheet lapping over the upper (not vice versa). If metal lath is not used on the ceiling, the lathing may start at the top of the wall and be bent and carried up 6 inches on to the ceiling so that no joints occur at juncture of ceiling and walls; and on walls all lath shall be started one stud away from corner and be bent into the angle and carried on to the abutting wall so as to avoid a joint at juncture of walls; provided, however, that where $\frac{3}{8}$ -inch Rib Lath is used on partitions, it shall be butted into all joints and strips of flat lath not less than 12 inches wide shall be bent into the shape of an "L," not less than 6 inches on each side (Cornerite), and be securely wired along each edge in all corners. Cornerite shall not be fastened at the corner, but only along each edge of the sheet.

(b) Sheets shall be wired to studs at intervals not exceeding 6 inches, and a tie shall occur where sides of sheets lap at channels. There shall be one tie on side laps half way between channels.

(c) Expanded Metal Lath shall be lapped at sides not less than $\frac{1}{2}$ inch, and at ends not less than 1 inch. End laps of sheets should generally occur only over studs; if between studs, sheets shall be securely laced with No. 18 gauge galvanized annealed wire.

(d) Rib Lath shall be lapped at sides by nesting outside ribs, and at ends 1 inch. End laps shall be as in preceding paragraph.

(e) Note: Solid partitions over 6 feet high shall be temporarily braced horizontally on the channel side at intervals not exceeding 6 feet vertically, before applying plaster. Such bracing shall not be removed until scratch coat on the lath side of the partition has set.

Plastering should begin at bottom, instead of at top of partition, in order to avoid danger of buckling construction.

No. 6—METAL STUD PARTITIONS (IN BUILDINGS WITH WOOD FLOORS OR WOOD CEILING JOISTS)

(For Details see Pages 6 and 8)

In buildings with wood floors or with wood floor joists, solid or hollow channel stud partitions shall be constructed in precisely the same manner as in buildings with incombustible floors or ceilings (see Specification No. 5), except that when floor and ceiling runners are used they shall be spiked directly to the wood floor or the ceiling joists; provided, also, that alternate methods of securing the channels to the wood floors described as follows shall be permissible:

Channels may be secured to wood floors or to wood

ceiling joists by driving two nails into the wood, one on either side of the web of the channel, leaving 1 inch of the nails undriven, or the end of the channel may be bent into a shoe, and a nail driven through a hole punched in the shoe, into the floor or ceiling, or the channels may be set in shoes secured to the floor. For wood joist ceilings, if the joists are not in the proper location, short pieces of wood shall be cut in between them and the channels either wired or nailed to such short pieces of wood.

No. 7—WALL FURRING

(1) WEIGHTS OF METAL LATH.

(a) Expanded Metal Lath, for vertical furring channels with a maximum spacing of 12 inches and 16 inches on centers, shall weigh not less than 2.2 pounds and 2.5 pounds per square yard, respectively.

(b) Three-eighths inch Rib Lath, for vertical furring channels with a maximum spacing of 19 $\frac{1}{2}$, 24, 30 and 36 inches on centers, shall weigh not less than 2.5, 3, 3.5 and 4 pounds per square yard, respectively.

(c) Flat Rib Lath for vertical furring channels with a maximum spacing of 19 $\frac{1}{2}$ inches on centers shall weigh not less than 3 pounds per square yard.

(2) HORIZONTAL FURRING CHANNELS.

(a) Minimum Size and Weight.

Horizontal Furring Channels shall be not less than $\frac{3}{4}$ inch Cold or Hot Rolled Channels, weighing not less than 276 pounds per thousand lineal feet.

(b) Spacing.

Horizontal Furring Channels shall be spaced not to exceed 4 feet 6 inch centers.

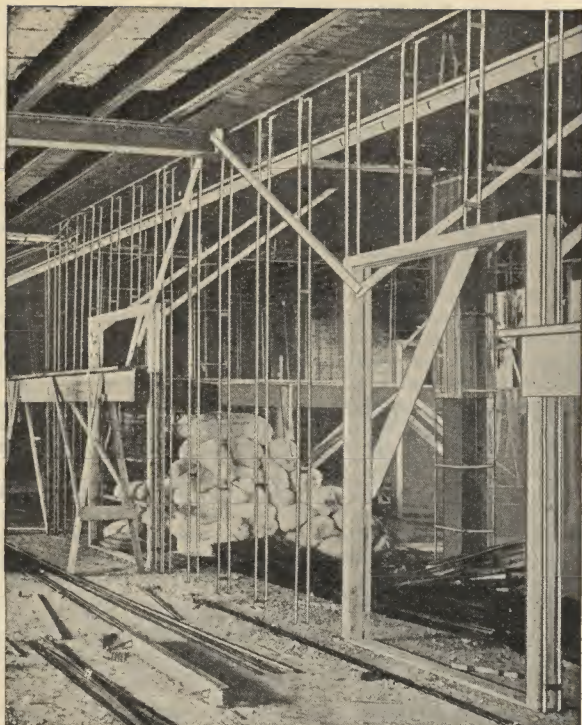
(3) VERTICAL FURRING CHANNELS.

Vertical Furring Channels shall be not less than $\frac{3}{4}$

(a) Minimum Size and Weight.

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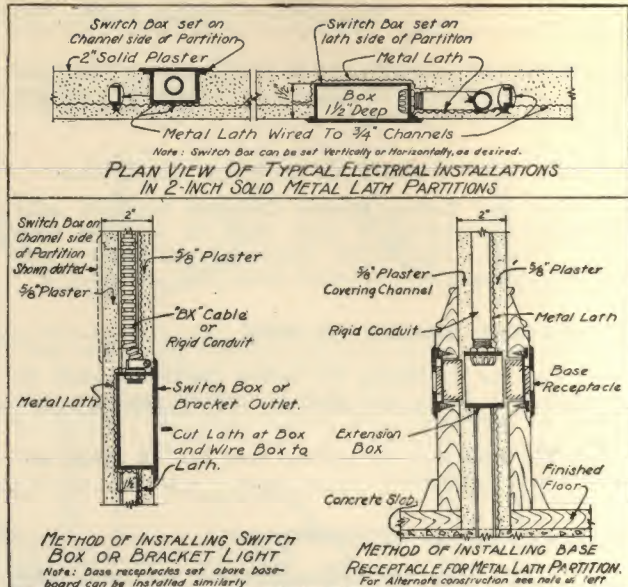
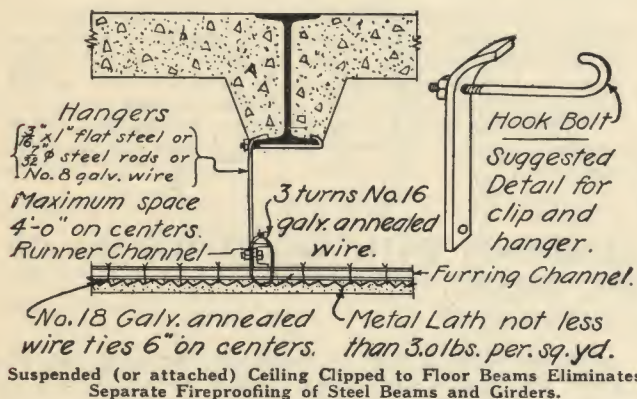


Erection of 4-Inch Hollow Metal Lath and Metal Stud Partitions.

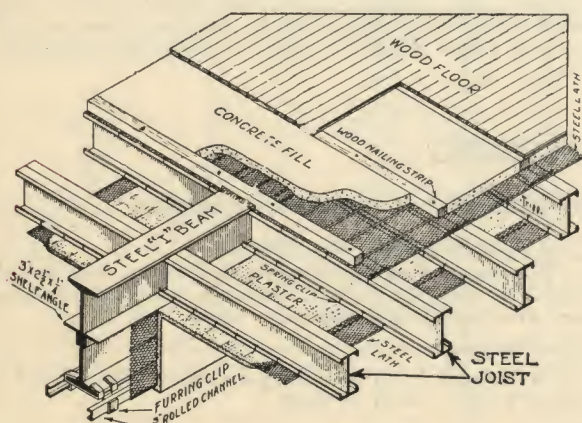
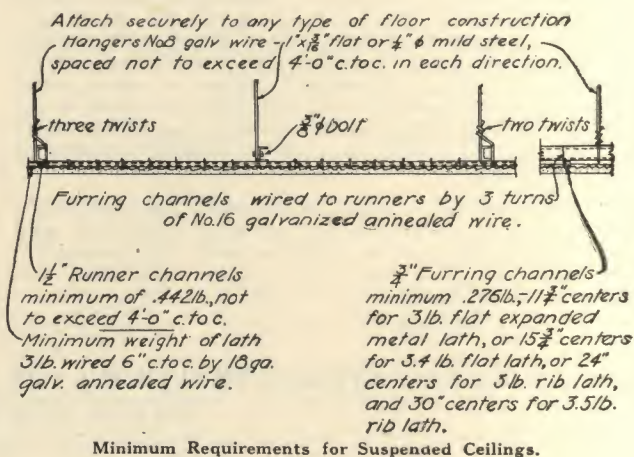
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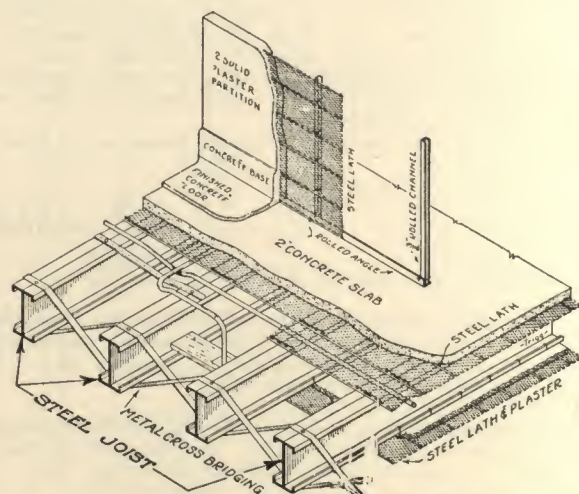
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Typical Electrical Installations in 2-Inch Solid Metal Lath Partitions, Showing Use of Special Shallow Switch Boxes and Other Devices.



Steel Joist Floor Construction with Wood Top Floor.



Steel Joist Floor Construction Using Finished Concrete Floor.

DETAILS OF METAL LATH IN PARTITIONS, CEILINGS, AND FLOORS

SPECIFICATIONS FOR METAL LATH CONSTRUCTION

inch Cold or Hot Rolled Channels, weighing not less than 276 pounds per thousand lineal feet.

(b) Spacing.

Vertical Furring Channels shall be spaced in accordance with the weight of the lath used, and shall not exceed 12 inch centers for 2.2 pound Expanded Metal Lath, 16 inch centers for 2.5 pound Expanded Metal Lath, nor to exceed 19½, 24, 30 and 36 inches for ⅜-inch Rib Lath weighing 2.5, 3, 3.5 and 4 pounds per square yard, respectively, and not greater than 19½ inches for Flat Rib Lath.

(4) TIE WIRE.

Tie Wire shall be not less than No. 18 gauge galvanized soft annealed.

(5) ERECTION OF FURRING CHANNELS.

(a) Horizontal Furring Channels shall be erected against the masonry walls and shall be laid flat with a nail dropped between channel and wall to separate same to permit wiring, and channels shall be secured to wall with 1½ inch cut stub nails.

(b) Vertical Furring Channels shall be securely wired to Horizontal Furring Channels by not less than three loops of No. 18 gauge galvanized annealed wire at each crossing.

(6) ERECTION OF METAL LATH.

(Same as in Article 6 of Specification No. 5—Metal Stud Partitions.)

No. 8—STANDING FURRING

Standing Furring shall have same spacing of studs and same weight of lath as used for solid Metal Stud

Partitions (Specification No. 5).

No. 9—ATTACHED CEILINGS CLIPPED TO STEEL FLOOR BEAMS OR IN CONTACT WITH CONCRETE OR TERRA COTTA FLOORS

(For Details See Page 8)

Note: This specification can be adapted for use with attached ceilings under concrete joists and floors, other specifications for which are given in Specification No. 10.

NOTE: USE SPECIFICATION FOR SUSPENDED CEILINGS OR THE FOLLOWING:

(1) SIZE AND WEIGHT OF FURRING CHANNELS AND HANGERS.

(a) Where ceilings are attached to the floor beams or just under terra cotta floors, ¾ inch Cold or Hot Rolled Furring Channels weighing not less than 276 pounds per thousand lineal feet shall be securely wired or clamped to the lower flanges of the beams or to hangers of not less than No. 9 gauge galvanized wire spaced not to exceed 2 feet centers along the channels. Transverse spacing of clamps, hangers or other attaching devices shall correspond to that of channels as specified in Article (2) below.

(2) WEIGHTS OF METAL LATH.

Expanded Metal Lath, for Furring Channels with a maximum spacing of 12 and 16 inches on centers, shall weigh not less than 3 pounds and 3.4 pounds per square yard, respectively. Three-eighths inch Rib Lath, for furring channels with a maximum spacing of 19½, 24 and 30 inches on centers, shall weigh not less than 3, 3.5 and 4 pounds per square yard, respectively. Flat Rib Lath for furring channels with a maximum spacing of 19½ inch centers shall weigh not less than 3 pounds per square yard.

(3) TIE WIRE.

Tie Wire shall be not less than No. 18 gauge galvanized soft annealed.

(4) ERECTION OF FURRING CHANNELS.

Special clips are obtainable for clipping furring channel to steel beams. For terra cotta arches a hole shall be punched through the tile, the hanger inserted and held in place with a cross piece of steel rod, toggle bolt or other suitable anchor. The lower ends shall be twisted around or otherwise secured to the furring channels, which are thus brought into the proper height and position.

(5) ERECTION OF METAL LATH.

(a) Metal Lath shall be applied with the long dimension of the sheet across the furring channels.

(b) Sheets shall be wired to furring channels at intervals not exceeding 6 inches, and a tie shall always occur where sides of sheets lap at channels. There shall be one tie on side laps half way between channels.

(c) Expanded Metal Lath shall be lapped at sides not less than ½ inch, and at ends not less than 1 inch. End laps of sheets should generally occur only over furring channels; if between studs, sheets shall be securely laced with No. 18 gauge galvanized annealed wire.

(d) Rib Lath shall be lapped at sides by nesting outside ribs, and at ends 1 inch. End laps shall be as in preceding paragraph.

No. 10—ATTACHED CEILINGS UNDER CONCRETE JOISTS AND FLOORS CONSTRUCTED WITH REMOVABLE METAL TILES, DOMES OR PANS

Note: Construction outlined in Specification No. 9 preceding can be adapted for attached ceilings under concrete joists and floors.

GENERAL AND ERECTION.

(1) SIZE, SPACING AND ERECTION OF HANGERS (METHOD A).

(a) Where ceiling is to be applied directly against the bottom of concrete joists or masonry floors, hangers of not less than No. 9 gauge galvanized annealed wire shall be placed in the slab or beam before pouring concrete. A

loop or other deformation shall be provided in each hanger to positively engage the concrete.

(b) Hangers shall be spaced not to exceed 2 feet in direction parallel to the joists and not further apart in the transverse direction than the center to center distance of the joists, which shall in no case be more than 26 inches.

(2) SIZE, WEIGHT, SPACING AND ERECTION OF FURRING CHANNELS AND RODS—WEIGHTS OF METAL LATH (METHOD A).

(a) Cold or Hot Rolled Channels not less than ¾ inch and weighing not less than 276 pounds per thousand

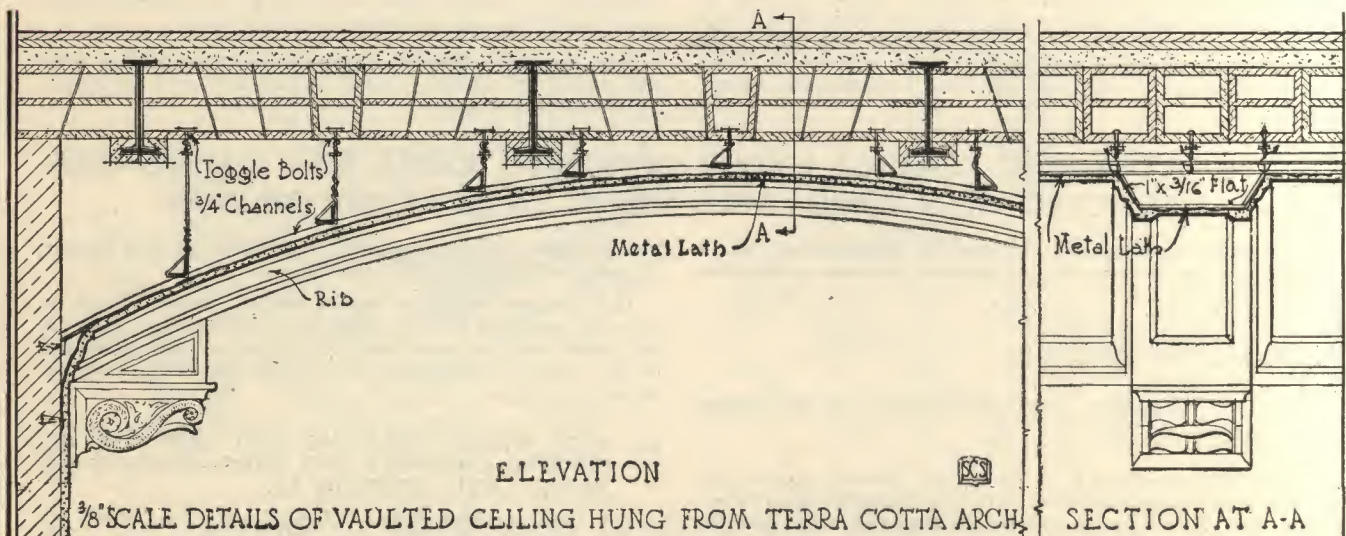
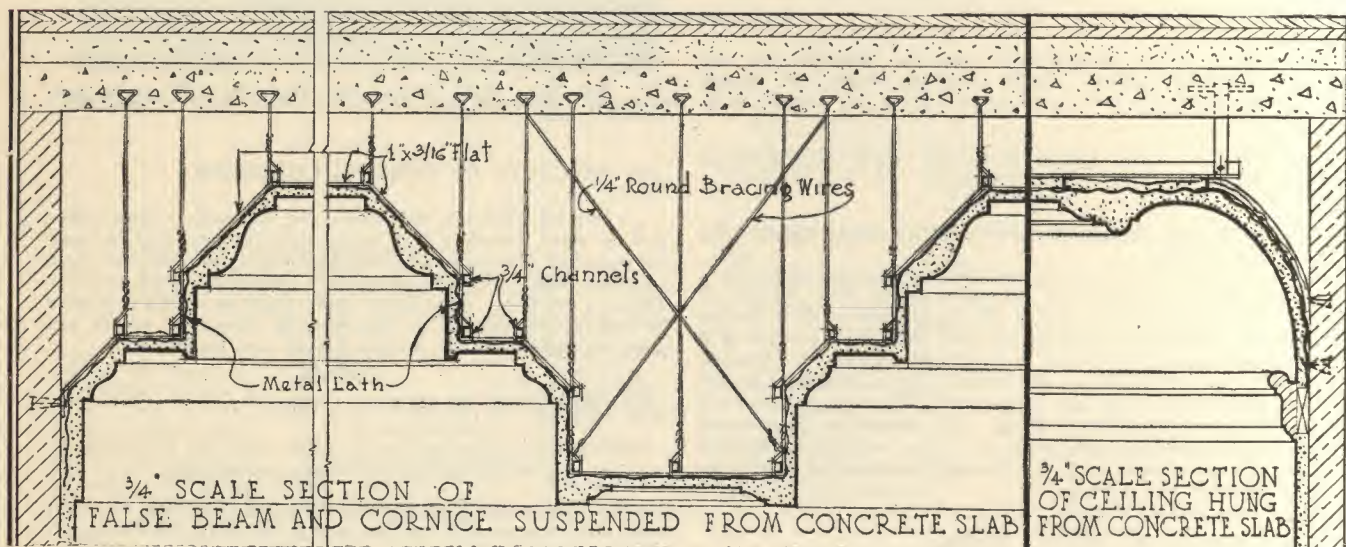
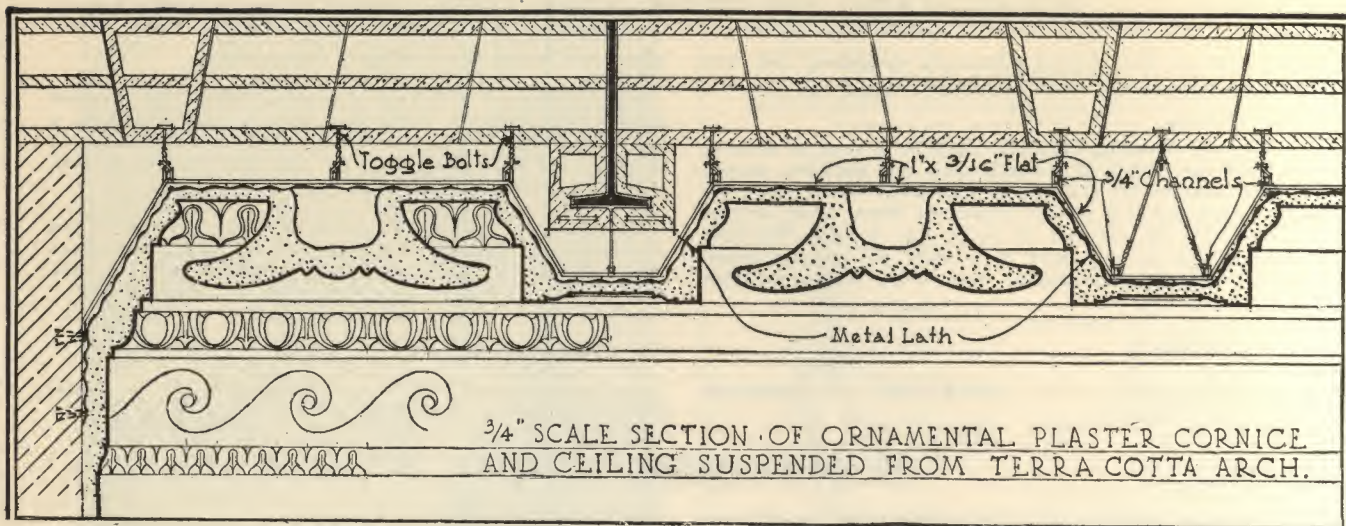
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SPECIFICATIONS FOR METAL LATH CONSTRUCTION

lineal feet shall be attached to the hangers parallel to the joists. Such channels shall be spaced not to exceed the center to center distance of the concrete joists and in no case to exceed 26 inches.

(b) **Pencil Rods** not less than $\frac{1}{4}$ inch in diameter shall be attached transversely to the furring channels by not less than three loops of No. 18 gauge galvanized annealed wire.

(c) Pencil Rods shall be spaced not to exceed $11\frac{3}{4}$ inch centers for 3 pound Expanded Metal Lath or $15\frac{3}{4}$ inch centers for 3.4 pound Expanded Metal Lath, or $19\frac{1}{2}$ inch centers for Flat Rib Lath or $\frac{3}{8}$ -inch Rib Lath weighing not less than 3 pounds per square yard. Where $\frac{3}{8}$ inch Rib Lath weighing not less than 3.5 pounds per square yard is used, the Pencil Rods may be omitted.

(3) SIZE, SPACING AND ERECTION OF HANGERS AND PENCIL RODS—WEIGHTS OF METAL LATH (METHOD B).

(a) In lieu of attachment to channels, Pencil Rods not less than $\frac{1}{4}$ inch in diameter shall be attached directly to wire hangers cast into the concrete joists. Pencil Rods shall be placed at right angles to the joists.

(b) Hangers shall be not less than No. 14 gauge galvanized annealed wire and shall be spaced not to exceed $11\frac{3}{4}$ inch centers for 3 pound Expanded Metal Lath,

$15\frac{3}{4}$ inch centers for 3.4 pound Expanded Metal Lath, or $19\frac{1}{2}$ inch centers for 3 pound Flat Rib or $\frac{3}{8}$ -inch Rib Lath.

(c) Where $\frac{3}{8}$ -inch Rib Lath, weighing not less than 3.5 pounds per square yard is used, the Pencil Rods may be omitted, but the ribs of the lath shall be placed at right angles to the joists, and attachments shall be spaced not to exceed 6 inches on centers along joists.

(4) ERECTION OF METAL LATH (METHODS A AND B).

(a) Metal Lath shall be applied with the long dimension of the sheet across the rods.

(b) Sheets shall be wired to rods with No. 18 gauge galvanized annealed wire at intervals not exceeding 6 inches, and a tie shall always occur where sides of sheets lap at rods. There shall be one tie on side laps half way between rods.

(c) Expanded Metal Lath shall be lapped at sides not less than $\frac{1}{2}$ inch, and at ends not less than 1 inch. End laps of sheets should generally occur only over rods; if between rods, sheets shall be securely laced with No. 18 gauge galvanized annealed wire.

(d) Rib Lath shall be lapped at sides by nesting outside ribs, and at ends 1 inch. End laps shall be as in preceding paragraph.

No. 11—ATTACHED CEILINGS UNDER CONCRETE JOISTS AND FLOORS, CONSTRUCTED WITH PERMANENT METAL TILES, DOMES OR PANS

Methods of attachment and sizes and weights of the component parts of this form of construction shall be

in accordance with the specifications of the manufacturers of the metal tiles, domes or pans.

No. 12—SUSPENDED CEILINGS

Suspended Below the Soffit of Steel or Concrete Beams or Purlins, or Concrete or Hollow Tile Floor Arches

(Details on Pages 8 and 10)

(1) HANGERS.

(a) Minimum Size.

The minimum size for hangers shall be No. 8 ga. galvanized wire, 1 by $\frac{3}{16}$ inch flat steel, or $\frac{3}{16}$ round mild steel rods.

(b) Spacing.

Hangers shall be spaced not to exceed 4 feet center to center in both directions, excepting that hangers shall be spaced not to exceed 2 feet on centers along runner channels when $\frac{3}{4}$ -inch runner channels weighing not less than 276 pounds per thousand lineal feet are used, as in Article 2a below.

(2) RUNNER CHANNELS.

(a) Minimum Size and Weight.

Runner Channels shall be not less than $1\frac{1}{2}$ inch Cold or Hot Rolled Channels weighing not less than 442 pounds per thousand lineal feet, excepting when hangers are spaced not to exceed 2 feet on centers along runner channels, in which case $\frac{3}{4}$ -inch runner channels weighing not less than 276 pounds per thousand lineal feet may be used; provided, however, that this construction is permissible only when ceiling is in direct contact with beams, joists, floors, etc.

(b) Spacing.

Runner Channels shall be spaced not to exceed 4 feet on centers.

(3) FURRING CHANNELS.

(a) Minimum Size and Weight.

Furring Channels shall be not less than $\frac{3}{4}$ inch Cold or Hot Rolled Channels weighing not less than 276 pounds per thousand lineal feet.

(b) Spacing.

Furring Channels shall be spaced in accordance with the weight of lath used, and shall not exceed 12 inch and 16 inch centers for 3 pound and 3.4 pound Expanded Metal Lath, respectively, or be spaced not to exceed $19\frac{1}{2}$ inch centers for 3 pound Flat Rib or $\frac{3}{8}$ -inch Rib Lath, or 24 inch and 30 inch centers for 3.5 and 4.0 pound $\frac{3}{8}$ inch Rib Lath, respectively.

(4) WEIGHTS OF METAL LATH.

No Metal Lath used for suspended ceilings shall have a weight less than 3 pounds per square yard; provided, however, that minimum weights shall in each case be governed by spacing of furring channels as specified in Article 3 (b) preceding.

(5) TIE WIRE.

Tie Wire for attaching Metal Lath to channels shall be not less than No. 18 gauge galvanized annealed wire.

Tie Wire used for securing furring channels to runner channels shall be not less than No. 16 gauge galvanized annealed wire.

(6) ERECTION OF CHANNEL FRAME.

(a) Attachment of Hangers to Beams, Purlins and floors.

Upper ends of hangers of wire, rods or flats shall be of sufficient length to wrap around beams or provide a suitable anchorage in the concrete or tile. Where steel beams or purlins are not more than 4 feet center to center, hangers may be attached directly to them. When hangers are hung from concrete beams or arches, the hangers shall be placed before concrete is poured. When ceilings are hung from terra cotta floors, hangers shall be installed after the tile is in place. A hole shall be bored in the underside of the tile and the hanger inserted and securely anchored with either a cross piece of steel rod

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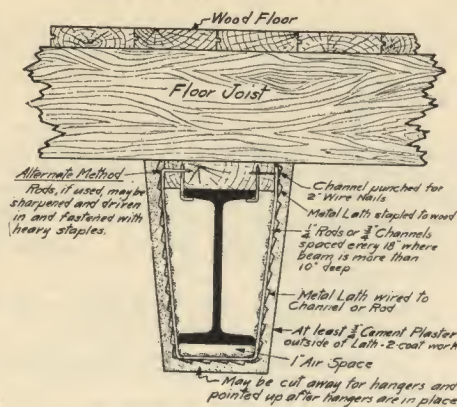
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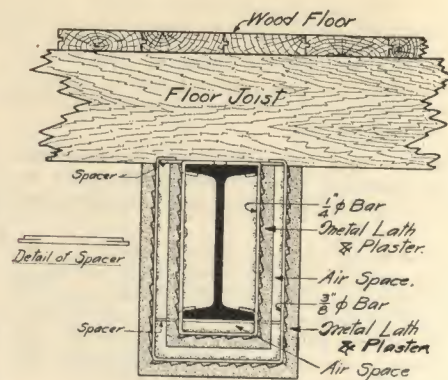
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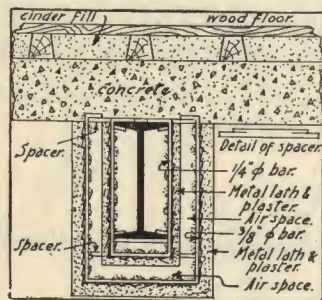


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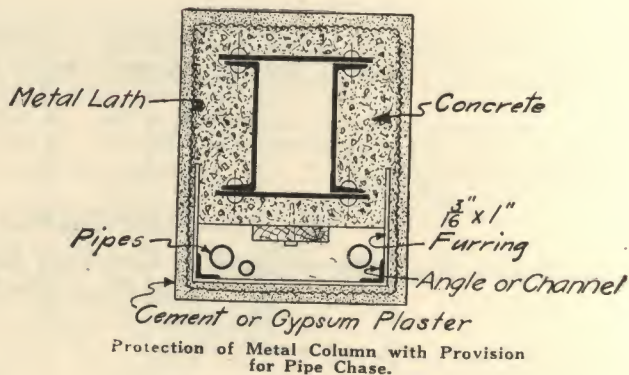
Methods of Fireproofing Steel Beams in Mill and Slow-Burning Construction.



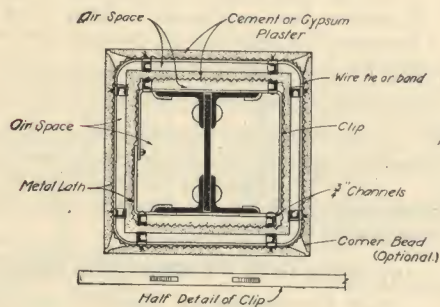
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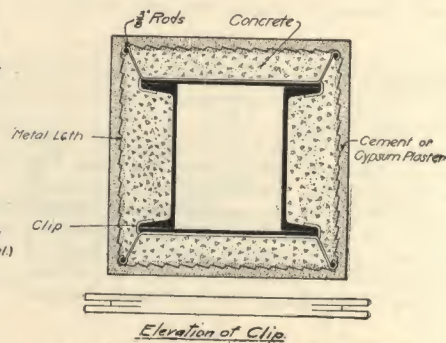
Fireproofing of Steel Beams Under Concrete Floors.



Protection of Metal Column with Provision for Pipe Chase.



Typical Fireproofing of Plate and Angle Column.



Another Suggestion for Fireproofing Plate and Channel Columns.

COMMON PRACTICE IN FIREPROOFING OF STEEL BEAMS, GIRDERS AND COLUMNS

SPECIFICATIONS FOR METAL LATH CONSTRUCTION

or toggle bolt, or the hanger may extend clear through the tile and be secured on the upper side by means of a steel rod or toggle bolt.

(b) Attachment of Runner Channels to Hangers.

Lower ends of wire hangers shall be of sufficient length to wrap around the runner channels and be given three twists around itself.

Lower ends of rod hangers shall be of length to wrap around the runner channel with two twists, or be securely wired to same.

Lower ends of flat steel hangers shall have holes punched at the proper distance, to which the runner channel shall be bolted with not less than $\frac{3}{8}$ -inch diameter bolts.

Runner channels shall be firmly secured to the hangers as described and spaced as in Article 2 of this section and shall conform to the contour of the ceiling.

(c) Attachment of Furring to Runner Channels.

Furring channels shall be erected at right angles to the runner channel and be securely wired to same by at least three turns of No. 16 galvanized annealed wire at each crossing, or by No. 9 wire hair pin clips.

(7) ERECTION OF METAL LATH.

(See Specification No. 9, Article 5 (Attached Ceilings)).

No. 13—BEAMS AND CORNICES

(Details on Pages 10, 12)

(1) WEIGHTS OF METAL LATH.

(a) Expanded Metal Lath, for beams and cornices where brackets are spaced 12 or 16 inches on centers, shall be not less than 2.5 and 3 pounds per square yard, respectively.

(2) SIZE, WEIGHT AND SPACING OF BRACKETS.

Brackets shall be formed of $\frac{3}{4}$ -inch Cold or Hot Rolled Channels weighing not less than 276 pounds per thousand lineal feet, or from $\frac{1}{8}$ by 1 inch flat steel, and shall be spaced to conform with weight of lath as above.

(3) SIZE, WEIGHT AND SPACING OF LONGITUDINAL CHANNELS OR RODS.

Longitudinal Channels or Rods shall be $\frac{3}{4}$ -inch Cold or Hot Rolled Channels weighing not less than 276 pounds per thousand lineal feet, or $\frac{1}{4}$ -inch Pencil Rods; and spacing of same shall be in accordance with dimensions of beam or cornice, but in no case to exceed 12 inches.

(4) TIE WIRE.

Wire for tying brackets to structural members shall be not less than No. 18 gauge galvanized annealed wire using 6 strands; for tying longitudinal rods to brackets, wire shall be not less than No. 16 gauge galvanized annealed wire, and for tying Metal Lath to rods or chan-

nels, wire shall be not less than No. 18 gauge galvanized annealed wire.

(5) ERECTION OF BRACKETS, CHANNELS AND RODS.

(a) Brackets shall be formed to template in accordance with details furnished by the architect. Brackets shall be securely wired, bolted or clamped to walls, ceilings, or structural members, as the case may require, and be spaced as in Article 2 above. For fastening brackets to concrete or masonry beams or walls, holes shall be drilled and plugged; when fastening to terra cotta, toggle bolts or suitable anchor shall be used.

(b) Longitudinal Channels or Rods shall be wired or bolted to brackets.

(6) ERECTION OF METAL LATH.

(a) Metal Lath shall be applied with the long dimension of the sheet running parallel to the longitudinal channels or rods and be bent into and made to conform with the outline of the finished beam or cornice. Side laps shall not occur at the corners, but strips of flat lath not less than 12 inches wide, bent "L" shape, 6 inches on each side of joint (Cornerite), shall be used at all corners.

(b) Side laps on sheets shall be $\frac{1}{2}$ inch and end laps 1 inch. Side laps shall be wired once between channels, and end laps shall be securely laced with No. 18 gauge galvanized annealed wire.

No. 14—COLUMNS AND PILASTERS

(Details on Page 12)

(1) WEIGHTS OF METAL LATH.

(a) Expanded Metal Lath, where vertical members of framing are spaced not to exceed 12 or 16 inches, shall weigh not less than 2.5 and 3 pounds per square yard, respectively.

(b) Three-eighths inch Rib or Flat Rib Lath, where vertical framing members are spaced not to exceed 19 $\frac{1}{2}$, 24 and 30 inches on centers, shall weigh not less than 2.5, 3, and 3.5 pounds per square yard, respectively.

(2) WEIGHTS OF VERTICAL FRAMING MEMBERS.

Vertical framing members shall be $\frac{3}{4}$ -inch Cold or Hot Rolled Channels weighing not less than 276 pounds per thousand lineal feet and shall be bracketed every 3 feet of their vertical height with similar $\frac{3}{4}$ -inch channels or with $\frac{1}{8}$ by 1 inch flat steel.

(3) TIE WIRE.

Wire for tying brackets to vertical members shall be not less than No. 18 gauge galvanized annealed wire.

Wire for attaching the lath to the vertical members shall be not less than No. 18 gauge galvanized annealed wire.

(4) ERECTION OF BRACKETS AND FRAMING MEMBERS.

(a) Hoops or brackets conforming to details furnished by the architect shall be securely attached to steel members with clamps or by wiring with No. 16 gauge galvanized annealed wire with 3 turns at each tie, or with No. 9 wire hair-pin clips, and to masonry or tile by drilling holes and plugging.

(b) Vertical framing shall be securely wired or bolted to brackets or hoops with not less than $\frac{3}{8}$ -inch diameter bolts, and shall be securely clamped or wired to structural members at floor and ceiling.

(5) ERECTION OF METAL LATH.

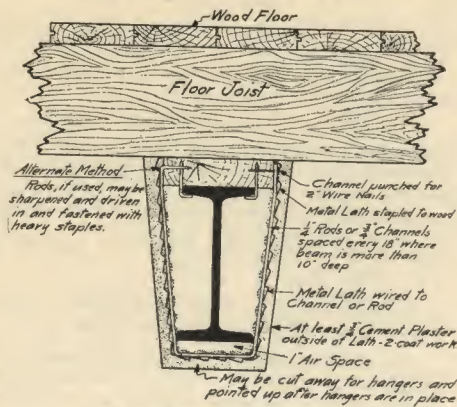
(a) Metal Lath shall be bent to the outline of column or pilaster, long dimension of the sheet at right angles to the vertical framing, and securely wired thereto.

Metal lath shall be bent up on the ceiling, or a strip of flat lath not less than 12 inches wide, bent into the shape of an "L," 6 inches on each side (Cornerite), shall be used at the ceiling corners.

(b) Sides of sheets shall be lapped 1 inch or, in the case of Rib Lath, by nesting outside ribs and be securely laced the full length of the lap with No. 18 galvanized annealed wire. Ends of sheets shall be lapped 1 inch and shall not occur at corners.

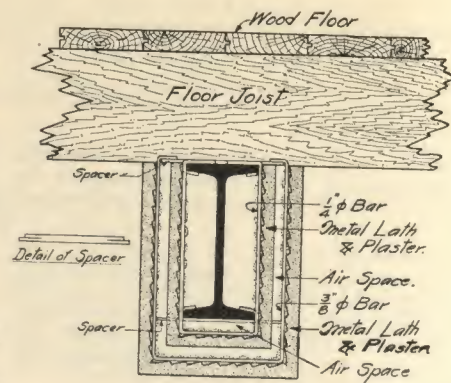
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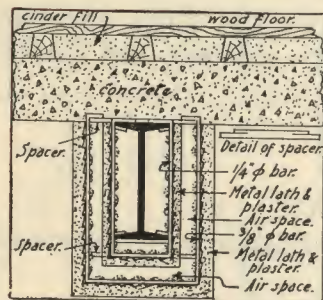


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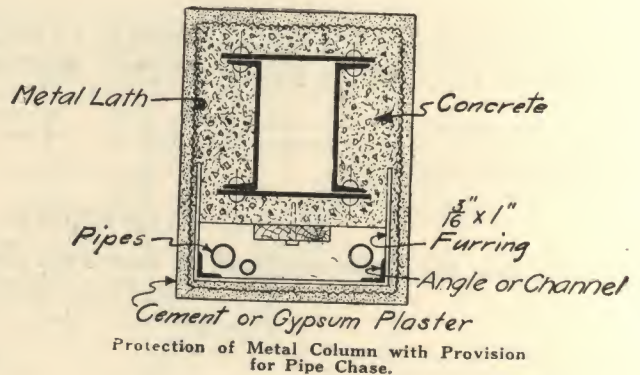
Methods of Fireproofing Steel Beams in Mill and Slow-Burning Construction.



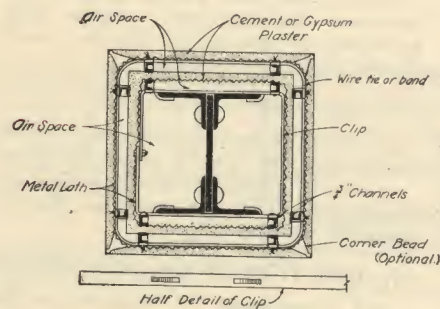
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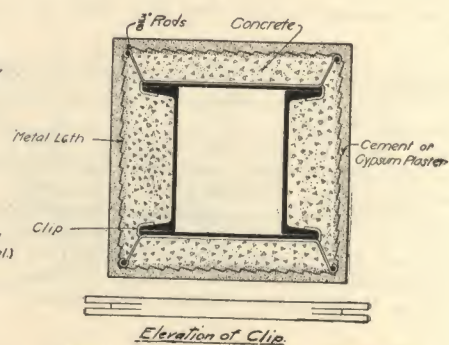
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SPECIFICATIONS FOR METAL LATH CONSTRUCTION

or toggle bolt, or the hanger may extend clear through the tile and be secured on the upper side by means of a steel rod or toggle bolt.

(b) Attachment of Runner Channels to Hangers.

Lower ends of wire hangers shall be of sufficient length to wrap around the runner channels and be given three twists around itself.

Lower ends of rod hangers shall be of length to wrap around the runner channel with two twists, or be securely wired to same.

Lower ends of flat steel hangers shall have holes punched at the proper distance, to which the runner channel shall be bolted with not less than $\frac{3}{8}$ -inch diameter bolts.

Runner channels shall be firmly secured to the hangers as described and spaced as in Article 2 of this section and shall conform to the contour of the ceiling.

(c) Attachment of Furring to Runner Channels.

Furring channels shall be erected at right angles to the runner channel and be securely wired to same by at least three turns of No. 16 galvanized annealed wire at each crossing, or by No. 9 wire hair pin clips.

(7) ERECTION OF METAL LATH.

(See Specification No. 9, Article 5 (Attached Ceilings).)

No. 13—BEAMS AND CORNICES

(Details on Pages 10, 12)

(1) WEIGHTS OF METAL LATH.

(a) Expanded Metal Lath, for beams and cornices where brackets are spaced 12 or 16 inches on centers, shall be not less than 2.5 and 3 pounds per square yard, respectively.

(2) SIZE, WEIGHT AND SPACING OF BRACKETS.

Brackets shall be formed of $\frac{3}{4}$ -inch Cold or Hot Rolled Channels weighing not less than 276 pounds per thousand lineal feet, or from $\frac{1}{8}$ by 1 inch flat steel, and shall be spaced to conform with weight of lath as above.

(3) SIZE, WEIGHT AND SPACING OF LONGITUDINAL CHANNELS OR RODS.

Longitudinal Channels or Rods shall be $\frac{3}{4}$ -inch Cold or Hot Rolled Channels weighing not less than 276 pounds per thousand lineal feet, or $\frac{1}{4}$ -inch Pencil Rods; and spacing of same shall be in accordance with dimensions of beam or cornice, but in no case to exceed 12 inches.

(4) TIE WIRE.

Wire for tying brackets to structural members shall be not less than No. 18 gauge galvanized annealed wire using 6 strands; for tying longitudinal rods to brackets, wire shall be not less than No. 16 gauge galvanized annealed wire, and for tying Metal Lath to rods or chan-

nels, wire shall be not less than No. 18 gauge galvanized annealed wire.

(5) ERECTION OF BRACKETS, CHANNELS AND RODS.

(a) Brackets shall be formed to template in accordance with details furnished by the architect. Brackets shall be securely wired, bolted or clamped to walls, ceilings, or structural members, as the case may require, and be spaced as in Article 2 above. For fastening brackets to concrete or masonry beams or walls, holes shall be drilled and plugged; when fastening to terra cotta, toggle bolts or suitable anchor shall be used.

(b) Longitudinal Channels or Rods shall be wired or bolted to brackets.

(6) ERECTION OF METAL LATH.

(a) Metal Lath shall be applied with the long dimension of the sheet running parallel to the longitudinal channels or rods and be bent into and made to conform with the outline of the finished beam or cornice. Side laps shall not occur at the corners, but strips of flat lath not less than 12 inches wide, bent "L" shape, 6 inches on each side of joint (Cornerite), shall be used at all corners.

(b) Side laps on sheets shall be $\frac{1}{2}$ inch and end laps 1 inch. Side laps shall be wired once between channels, and end laps shall be securely laced with No. 18 gauge galvanized annealed wire.

No. 14—COLUMNS AND PILASTERS

(Details on Page 12)

(1) WEIGHTS OF METAL LATH.

(a) Expanded Metal Lath, where vertical members of framing are spaced not to exceed 12 or 16 inches, shall weigh not less than 2.5 and 3 pounds per square yard, respectively.

(b) Three-eighths inch Rib or Flat Rib Lath, where vertical framing members are spaced not to exceed 19 $\frac{1}{2}$, 24 and 30 inches on centers, shall weigh not less than 2.5, 3, and 3.5 pounds per square yard, respectively.

(2) WEIGHTS OF VERTICAL FRAMING MEMBERS.

Vertical framing members shall be $\frac{3}{4}$ -inch Cold or Hot Rolled Channels weighing not less than 276 pounds per thousand lineal feet and shall be bracketed every 3 feet of their vertical height with similar $\frac{3}{4}$ -inch channels or with $\frac{1}{8}$ by 1 inch flat steel.

(3) TIE WIRE.

Wire for tying brackets to vertical members shall be not less than No. 18 gauge galvanized annealed wire.

Wire for attaching the lath to the vertical members shall be not less than No. 18 gauge galvanized annealed wire.

(4) ERECTION OF BRACKETS AND FRAMING MEMBERS.

(a) Hoops or brackets conforming to details furnished by the architect shall be securely attached to steel members with clamps or by wiring with No. 16 gauge galvanized annealed wire with 3 turns at each tie, or with No. 9 wire hair-pin clips, and to masonry or tile by drilling holes and plugging.

(b) Vertical framing shall be securely wired or bolted to brackets or hoops with not less than $\frac{3}{8}$ -inch diameter bolts, and shall be securely clamped or wired to structural members at floor and ceiling.

(5) ERECTION OF METAL LATH.

(a) Metal Lath shall be bent to the outline of column or pilaster, long dimension of the sheet at right angles to the vertical framing, and securely wired thereto.

Metal Lath shall be bent up on the ceiling, or a strip of flat lath not less than 12 inches wide, bent into the shape of an "L," 6 inches on each side (Cornerite), shall be used at the ceiling corners.

(b) Sides of sheets shall be lapped 1 inch or, in the case of Rib Lath, by nesting outside ribs and be securely laced the full length of the lap with No. 18 galvanized annealed wire. Ends of sheets shall be lapped 1 inch and shall not occur at corners.

No. 15—CORNER AND JAMB REINFORCEMENT IN BLOCK PARTITION CONSTRUCTION

(1) CORNER REINFORCEMENT.

Wherever gypsum or clay tile partitions abut and where tile partitions or walls join ceilings constructed of tile or concrete, strips of Expanded Metal Lath, 12 inches wide cut from sheets weighing not less than 2.2 pounds per square yard shall be bent into such joints and be secured to the tile or concrete before plastering to rein-

force the plaster and prevent corner cracks.

(2) JAMB REINFORCEMENT.

Plaster at sides or above openings in block partitions shall be reinforced by wide strips of Expanded Metal Lath cut from sheets weighing not less than 2.2 pounds per square yard and shall extend beyond the jamb or head about 12 inches on both sides of the partition.

No. 16—METAL LATH IN STEEL JOIST CONSTRUCTION

(See Page 8)

(1) WEIGHTS OF METAL LATH.

(a) Flat Expanded Metal Lath used on the upper (floor) side of steel joists (metal lumber) with a maximum spacing of 16 inches and 12 inches shall weigh not less than 3.4 pounds and 3 pounds per square yard, respectively.

(b) Three-eighths inch Rib Lath used on the upper (floor) side of steel joists, with a maximum spacing of 24 inches, shall weigh not less than 4 pounds per square yard.

(c) Expanded Metal Lath for ceilings attached in contact with the lower flanges of steel joists with a maximum spacing of 16 inches and 12 inches shall weigh not less than 3.4 pounds and 3 pounds per square yard, respectively. Three-eighths inch Rib Lath used for the same

purpose, for joists with a maximum spacing of 19½, 24, and 30 inches on centers, shall weigh not less than 3, 3.5, and 4 pounds per square yard respectively. Flat Rib Lath for steel joists with a maximum spacing of 19½ inch centers, shall weigh not less than 3 pounds per square yard.

(2) SUSPENDED CEILING UNDER STEEL JOISTS.

When a metal lath ceiling is suspended under steel joists, it shall conform to the usual Specifications for suspended ceilings. (See Specifications No. 12.)

(3) ATTACHMENTS FOR CEILING LATH.

Ceiling Lath shall be attached to steel joists at not to exceed 6 inch centers in the manner recommended by the manufacturers of the steel joists.

No. 17—METAL LATH ALTERNATE SPECIFICATIONS

(See Page 14)

Plastering specifications for residences in which wood lath predominates should call for Expanded Metal Lath as follows:

(1) METAL LATH OVER THE HEATING PLANT AND FUEL STORAGE.

That portion of the basement ceiling directly over the heating plant and fuel storage and extending 3 feet beyond the outlines thereof and that portion of such ceiling over hot air and smoke pipes shall be protected by Expanded Metal Lath and plaster.

(2) BATHROOM WAINSCOT.

The entire bath room wainscot shall be lathed with Expanded Metal Lath (whether for tile backing or for plaster).

In addition to the above, contractor shall submit bids on the following two alternates:

ALTERNATE I

FURNISH AND INSTALL

(1) Expanded Metal Lath on the ceilings of the living room, dining room, entry hall, and around and under the

stairs and stairwell where exposed to view from the main floor.

(2) An 8 to 12 inch strip of Metal Lath bent into the shape of an "L" (Cornerite) and applied over wood lath in the corners of the living room, dining room and stair hall (to prevent corner cracks) wherever wood lath or plasterboard is used.

ALTERNATE II

(In addition to the preceding) FURNISH AND INSTALL

(1) Expanded Metal Lath for the walls of the living room, dining room and entry hall.

(2) Metal Lath for the balance of the basement ceiling.

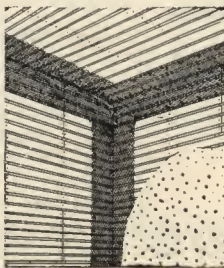
WEIGHTS AND ATTACHMENTS FOR METAL LATH

Note: Minimum weights of Expanded Metal Lath specified above shall be as follows:

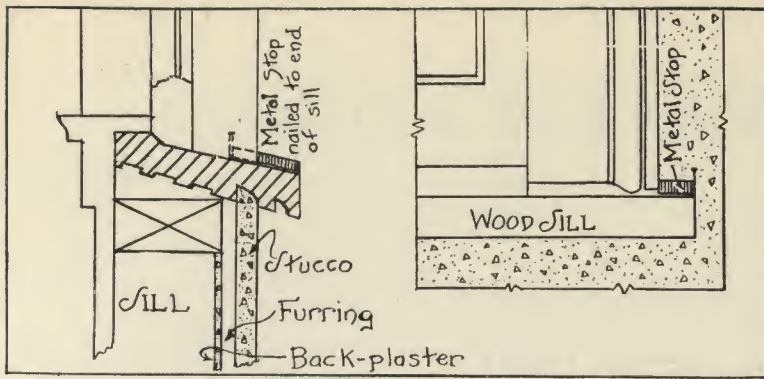
For walls and partitions and cornerite, 2.2 pounds per square yard.

For ceilings, 3 pounds per square yard.

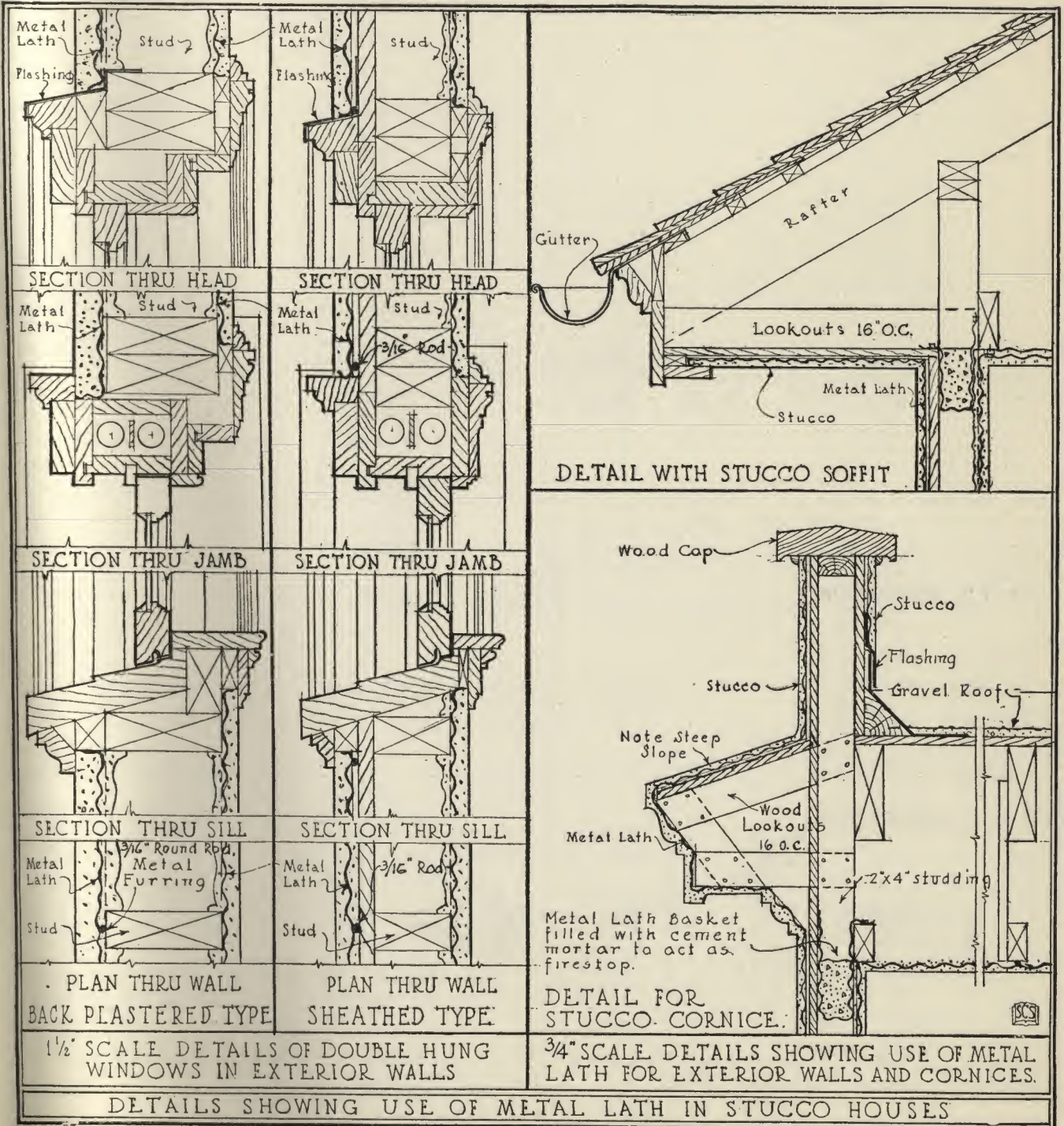
Metal Lath shall be attached to wood studs and wood joists by not less than 6d nails or by equivalent staples. Spacing of nails or staples shall not exceed 6 inches on centers.



Use of Metal Lath as "Cornerite" to Prevent Corner Cracks Wherever Wood Lath or Plasterboard is Used.



Metal Stop to Effectively Prevent Water from Concentrating at Ends of Sill.
Note slant of sill and drip which should be used on all horizontal woodwork.



No. 18—METAL LATH UNDER TILE WORK

(1) WEIGHTS OF METAL LATH.

(a) Flat Expanded Metal Lath on vertical surfaces and on ceilings where supports are not more than 16 inches o.c., shall weigh not less than 3.4 pounds per square yard.

(b) On vertical surfaces where supports are not over 12 inches o.c., Metal Lath shall weigh not less than 3.0 pounds per square yard.

(c) Where studs are spaced more than 16 inches apart, but not to exceed 20 inches, $\frac{1}{8}$ inch flat rib, diamond meshed lath weighing not less than 3.4 pounds per square yard, shall be used behind the tile work.

(2) BUILDING PAPER.

In wood frame construction apply tar or asphalt saturated building paper weighing not less than eleven (11) pounds per 100 square feet over supports, lapping paper at least 2 inches at seams and in connection with floors, turning up on walls at least 2 inches.

(3) TILED WALLS AND VERTICAL SURFACES.

(a) WOOD OR METAL STUDDING. New construction. Attach lath as described in Specification No. 2, Wood Studs and Joist Construction. This shall also apply in old work, as any existing plaster and wood lath shall be removed therefrom and studding then covered with 3.0 pounds metal lath as in new construction.

(b) GYPSUM BLOCKS. Where tiles are to be set against Gypsum Blocks, apply building paper as specified above. Over this attach $\frac{3}{8}$ inch rib metal lath, weighing not less than 3.0 pounds per square yard.

(c) TILE OR HOLLOW TILE AND MASONRY WALLS. Vertical surfaces of concrete or other masonry which are to be faced with tile shall be brought to the proper plane to receive required thickness of scratch coat and tiles. They shall be made plumb, reasonably straight and with faces free from projections, etc., and left fairly rough. In existing structures all mortar or plaster shall be removed and metal lath attached as heretofore specified, or else the plaster hacked and wire brushed to assure complete bonding of the scratch coat.

(d) CORK OR OTHER INSULATION. Where tiles are to be set against cork or other insulation, metal lath shall be attached as heretofore specified. In such installations, the scratch coat shall contain a suitable proportion of an established brand of waterproofing compound, mixed in accordance with manufacturer's specifications.

(4) TILE CEILINGS, SOFFITS AND SILLS.

(a) In frame construction where supports are spaced not to exceed 16 inches on centers, use Expanded Metal

Lath weighing not less than 3.0 pounds per square yard. For joists with a maximum spacing of respectively $19\frac{1}{2}$ inches and 24 inches o.c., use $\frac{3}{8}$ inch rib lath, weighing respectively, not less than 3.0 pounds and 3.5 pounds per square yard. In old construction existing plaster should be removed before applying Metal Lath.

(5) TILE FLOORS AND HORIZONTAL SURFACES.

(Other than Ceilings, Soffits and Sills.)

Unless otherwise provided for in the Architect's Specification, a layer of building paper, lapped and turned up, shall be laid over members, and tops of joists shall be chamfered to avoid sharp corners in concrete bed. Concrete setting bed shall be $2\frac{1}{2}$ inches thick, and preferably reinforced with a shrinkage mesh to prevent cracking. This to consist of a No. 16 gauge, 2 inch or 3 inch mesh unpainted Expanded Metal, properly embedded in the concrete. A $\frac{1}{2}$ inch mortar setting bed shall be placed over this to receive the tile.

(6) TILING OVER EXISTING FLOORS.

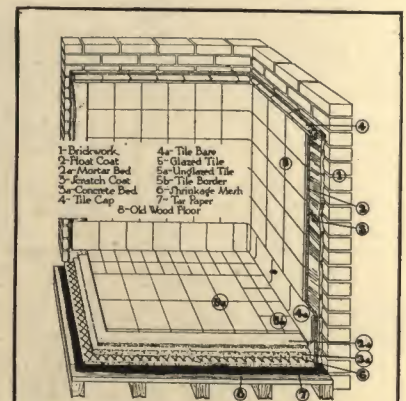
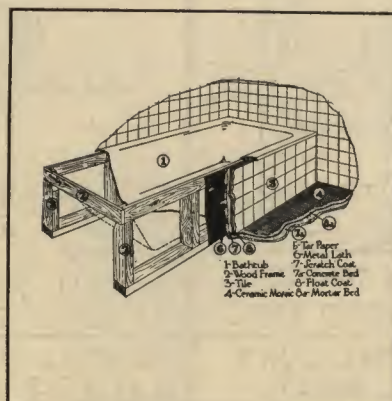
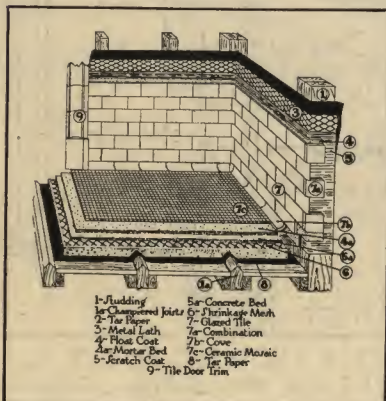
Tile floors may be laid directly on top of the wood floor, by using an underfill or concrete setting bed, reinforced with shrinkage mesh as above specified, the mortar setting bed being spread above to receive the tiles.

(a) SWIMMING POOLS, TURKISH BATHS, etc. The base and tile work shall be prepared and set as heretofore specified, and in addition, the mortar setting beds and joints shall contain suitable proportions of an established brand of waterproofing compound, mixed in accordance with manufacturers' directions. Life rails shall be reinforced with No. 16 gauge 2 inch or 3 inch mesh, unpainted Expanded Metal, and the high point shall be brought to an exact level on all sides of the pool.

(b) BUILT-IN TILE BATH TUBS. For tiling the sides of a built-in bath tub, follow same procedure provided for in paragraph (a) Specification No. 3 tile walls, and vertical surfaces.

(7) PLASTERING

After all grounds or plugs to receive electrical or plumbing fixtures have been installed, metal lath shall be plastered with a 1 to 3 mix scratch coat, not less than $\frac{1}{2}$ inch thick, applied not less than 24 hours or more than 48 hours before commencing to set tiles. Then apply the setting coat into which the tile shall be grouted with Portland Cement mixed with water to the consistency of thick cream.



**STEEL-
STRENGTHENED
PLASTERING**